

WEEK
AGO

YEAR
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START
OF-WAR
1939

BUSINESS WEEK



The American high command:
their clock times history.

In This Issue:

One-Fifth of a Nation— Government-Owned

A Report to Executives

AND ASSEMBLY LINE - 34-C
GENERAL LIBRARY
ARMY OF LIBERTY

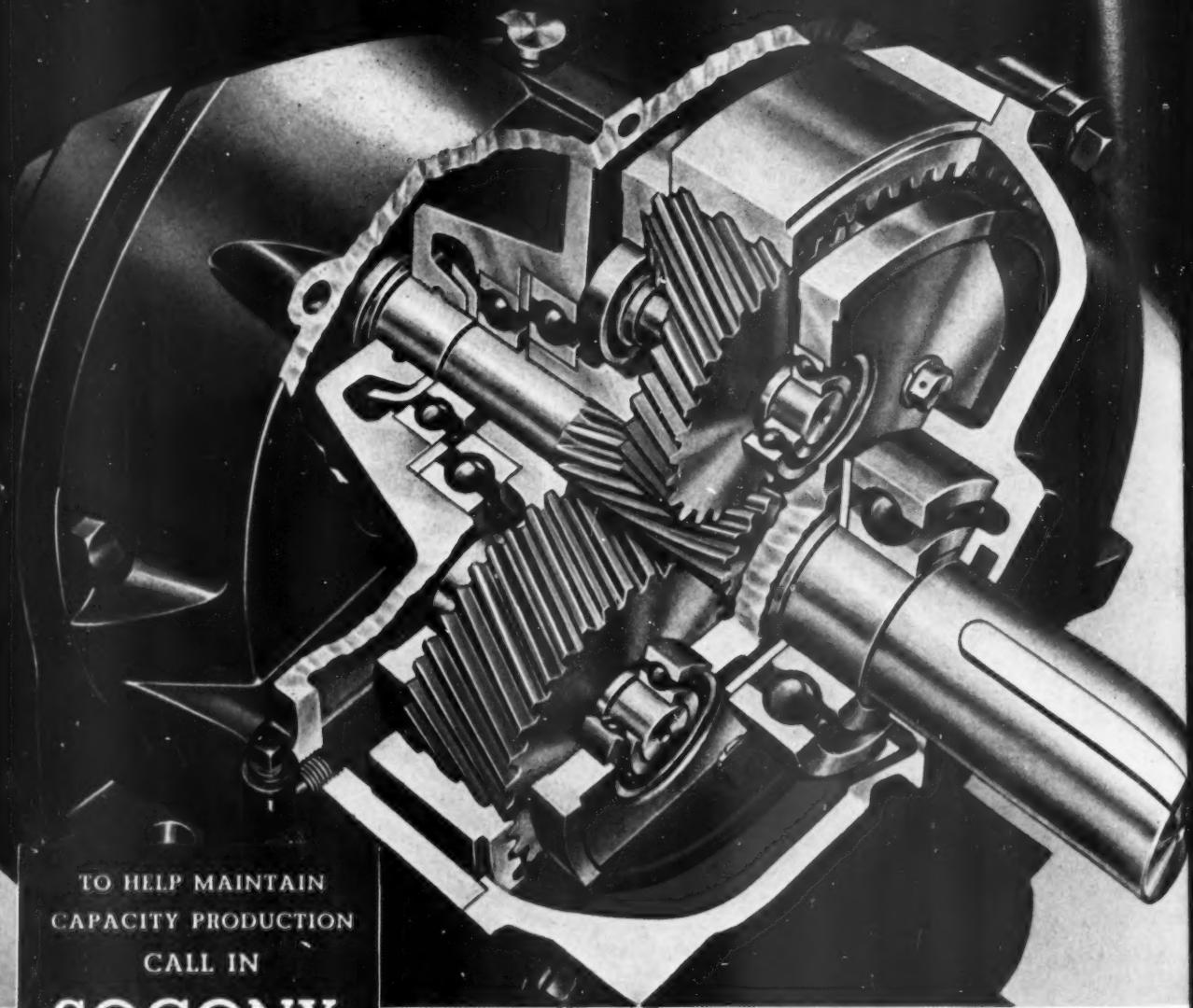
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BUSINESS
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PUBLISHED EACH WEEK BY THE BROWN & WARWICK PUBLISHING COMPANY, INC. TWENTY CENTS

Now Motor and Gears are Married

OIL HAS A
TOUGHER JOB TO DO!



TO HELP MAINTAIN
CAPACITY PRODUCTION
CALL IN

SOCONY-
VACUUM



*for Correct
Lubrication*

TIME WAS when you'd buy an electric motor and then a separate set of gears. That used up extra metal; took extra time and space to set them up, too.

So some practical chap decided to put them together in the same "house."

Gear-motors, like the one above, do important war jobs. *And the oil you see is vital to their efficiency!*

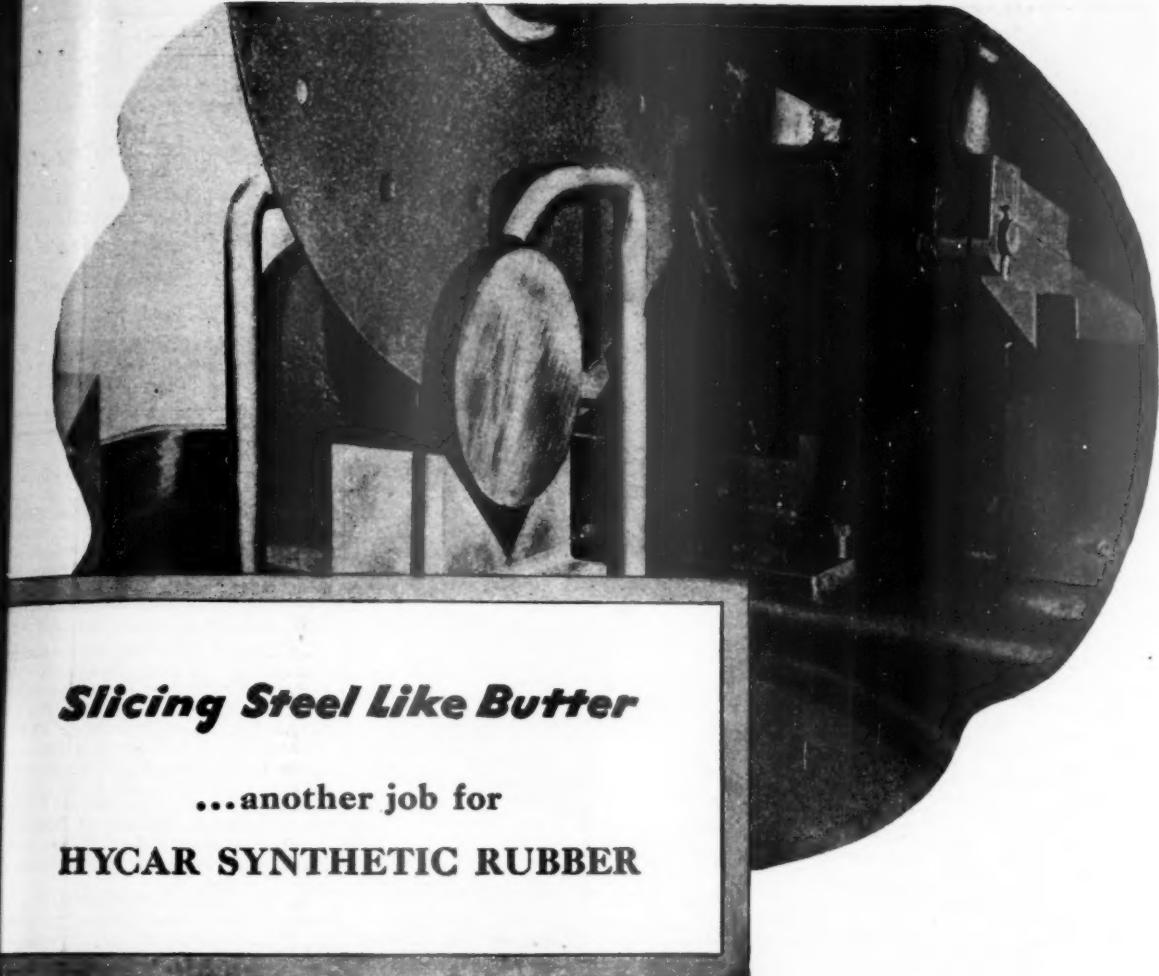
The oil must stick to the gear teeth and prevent destructive wear.

It must resist oxidation, too. Churning of the gears tends to oxidize it—and now that they're in the same "house" so does heat from the motor.

Here's where the high quality of Gargoyle Oils is important. When jobs get tougher their extra margin of protection is real preventive maintenance!

You can't over-emphasize the importance of "Correct Lubrication" in meeting your war orders. *Give this responsibility to one of your men* and advise him to make use of our 77 years' experience—the world's greatest in this field!

SOCONY-VACUUM OIL CO., INC.—Standard Oil of New York Div. • White Star Div. Lubrite Div. • Chicago Div. • White Eagle Div. Wadham's Div. • Magnolia Petroleum Co. General Petroleum Corporation of Calif.



Slicing Steel Like Butter

...another job for

HYCAR SYNTHETIC RUBBER

HIGH-SPEED abrasive cutters off wheels that walk through heavy steel bars in a few seconds . . . this is not a place where you would expect to find synthetic rubber, but it's just one of thousands of ways Hycar has been used to improve essential products and processes throughout industry.

As the tough, durable bond that holds the particles of abrasive together in a cutting wheel, Hycar withstands the deteriorating effects of heat and oil-emulsion coolants, thus lessening wear and prolonging life of the wheel.

Resistance to oil—heat—abrasion . . . the qualities responsible for the superior performance of Hycar in this exacting service, are the identical qualities needed for many other uses. Excellent

oil resistance, once considered a luxury in flexible materials, is now a must in most industrial applications. Superior heat resistance, recently just a hope, is often a specified requirement. In addition, abrasion resistance surpassing that of natural rubber, whether operating conditions are favorable or adverse, is filling a long-felt want.

Hycar has not only all these qualities, but many other desirable properties, and—of great importance—it can be tailor-made to fit the needs of each application. *Hycar Chemical Company, Akron, Ohio.*

Hycar is made in several types, supplied to fabricators in the form of crude synthetic rubber. We will be glad to work with you and your rubber products supplier in applying Hycar to your problems.

hycar

LARGEST INDEPENDENT PRODUCER OF
BUTADIENE SYNTHETIC RUBBER IN AMERICA

SENDING A PACKAGE TO HITLER



It contains munitions, destined for the destruction of the German army, to be used by the Allies at the front. Countless thousands of packages, supplies for fighting troops on all fronts, must be transported across miles of American land, across an ocean, and then another trek to the actual combat zone. The carriers—railroads, boats, trucks, even planes—form the supply line half way around the globe. And each is dependent on rubber.

Railroads use rubber hose, belting and gaskets for rolling stock and all kinds of mechanical rubber products in maintenance shops. Ships require rubber products of all types, including fire hose, belts, valves and packing. Army trucks use tires and tubes, of course, hydraulic brake hose, rubber motor mounting, rubber for shock absorption, fan belts and radiator hose.

Helping keep these supply lines efficient in operation is a responsibility of the rubber industry. Republic is especially proud of the many mechanical rubber products it furnishes for this wartime transportation system.



Your Republic Distributor has the knowledge and facilities to provide advantages of supply and service available in no other way on your needs for mechanical rubber and other equipment. Utilize his services fully. His display of the Republic Distributor Emblem is your assurance of his qualifications.

REPUBLIC RUBBER

YOUNGSTOWN • OHIO

HOSE • BELTING • MOLDED GOODS • DIVISION OF • PACKING • EXTRUDED PRODUCTS

LEE RUBBER & TIRE CORPORATION

BUSINESS WEEK

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BUSINESS WEEK • JUNE 19 • NUMBER 11
(with which is combined *The Annalist* and *Magazine of Business*). Published weekly by McGraw-Hill Publishing Company, Inc., [] H. McGraw, Founder and Honorary Chairman. Publication office, 99-129 North Broad Street, Albany, New York. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42ND ST., NEW YORK, N. Y. James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President; B. Putnam, Treasurer; J. A. Gerardi, Secretary. Allow ten days for change of address. Advertising address: Director of Circulation, Business Week, 330 W. 42nd Street, New York, N. Y. Subscription rates—United States, Mexico, Central and South American countries \$5.50 per year. Canada \$5.50 for a year. Entered as second class matter December 4, 1936 at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Return postage guaranteed. Printed U. S. A. Copyright 1943 by the McGraw-Hill Publishing Company, Inc.

WASHINGTON BULLETIN

WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

Which Way Smith-Connally?

Would Roosevelt sign or veto the Smith-Connally antistrike bill? Not for a long time has Washington had so engrossing a topic of speculation as this question provided early this week. And those who anticipated a veto appeared to have the best of the argument, for at midweek, the opinions of President Roosevelt's administrative advisers and his own political instincts seemed for once to coincide. Both pointed to a veto.

The Politics of a Veto

John L. Lewis, who personally insured passage of the bill through Congress by his strong-arm strike tactics, has put Roosevelt on a tough spot politically. Any action the President takes will make him enemies. True, his signature on the bill, in the country's present temper, would be pleasing to most of the general public. But against this, with an eye on the elections 16 months away, Roosevelt can weigh the short memory of the general public and the probability that voters who feel strongly enough about the issue to remember it—come election time—would vote for someone else anyway.

If the President were to sign the bill, it would vastly strengthen Lewis' campaign to split labor away from Roosevelt and line it up behind the Republicans or fashion it into the nucleus of a third party. The public will forget, but labor won't; as long as the law is on the books, enforced or not, its removal will be a prime union objective.

Labor support alone won't elect Roosevelt in 1944, but he can hardly be elected without it.

Jockeying on Coal Strike

A decision for a veto, however, leaves the immediate issue of coal to be dealt with. Here the timing appeared to give Roosevelt a slight advantage. He was not faced with the necessity for acting on the bill, one way or another, until Friday of next week. This means he could hold the bill in suspense until after the coal strike deadline expired June 20. Lewis, of course, could nullify this advantage by extending the deadline again.

Some A.F.L. leaders, fearful that such a move might force the President's hand, were reportedly dickering with Lewis, promising him support for the presidency of the federation, once he

is readmitted (BW-May 29 '43, p17), in return for a quick coal settlement that would eliminate the Smith-Connally threat.

Little Help on Strike Handling

Reinforcing the political pressures for a veto is the belief at the administrative level that the bill actually would offer little practical help in dealing with the unions (page 110).

Except in the coal case, mere takeover of plants has been sufficient without a law to break any strike. And as for coal, Lewis would very likely welcome a jail sentence as a cheap price for the status of labor martyr.



Cutting Court Quorum

New legislation, reducing from six to five the number of Supreme Court justices needed to constitute a quorum, is under heavy fire in Congress, and opponents of the bill are trying to identify it with the New Deal "court packing" bill of 1937. Indications are that this strategy will succeed in killing or indefinitely delaying action.

Both the Court and the Dept. of Justice favor the five-man quorum, which was originally specified when the court was established and remained the rule for more than half of the nation's history. The law was changed to require a quorum of six during the Administration of President Grant, when the size of the court was increased to ten members. Later, the size was cut back to nine members, but nobody thought to reduce the quorum requirement.

Reduction in the quorum now would end the stalemate on two major cases: the government's antitrust action against the Aluminum Co. of America and the North American Co. case, involving the constitutionality of the holding company "death sentence." Because of disqualifications of four justices in each case, no decision has been possible.



OPA Gets Some Help

Roosevelt himself is now going to bat for OPA in a final effort to get some subsidy money to hold prices and prevent dismemberment of the existing control structure. This is positively the first time the White House has given unqualified support to OPA in its tribulations, and the move plainly indicates that the President is getting really worried about inflation. He now fears

loss of public confidence in the value of money and bonds.

Congress doesn't like the President's firmer stand. Neither does War Food Administrator Chester C. Davis who otherwise would have become a real food czar by inheriting OPA's price and rationing powers. Nor is Petroleum Administrator for War Harold L. Ickes happy. Ickes, like Davis, hoped to gain price and rationing authority.

Where Clew Is to Be Found

First indication of who will win—the President or Congress—will come next week when Congress tackles the Commodity Credit Corp.'s finances. The House Banking and Currency Committee has written a proviso into the CCC bill which prevents "the funds of CCC or any other government agency from being used for the payment of subsidies to maintain maximum prices for agricultural commodities."

If that clause comes out, the President has scored a win. If not, the present chaotic situation will continue.

Meanwhile, OPA has put subsidies on butter (at the rate of a nickel a pound) into effect with Defense Supplies Corp. money. Meat subsidies (2¢ a pound on dressed carcasses) will become effective soon.

In the interim, OPA wants to roll back vegetable prices. This move won't involve subsidies, the lower prices being the result of clipping "outrageously inflated prices."

Things Are Going Better

Internally, OPA shows signs of pulling out of its demoralization. With Dr. J. Kenneth Galbraith (ex-Deputy Price Administrator) gone, the Galbraith-Maxon feud has disappeared. And prospects of subsidies, under Presidential support, are pepping up the price agency's flagging spirits.



More Exports, More Imports

The improved shipping situation, reflecting slow ascendancy over the submarine menace, will be more and more evident from now on.

The Board of Economic Warfare will be able to release measurably larger quantities of goods to Latin-American countries in July and bring back correspondingly larger imports than in the past. All traffic, in both directions, will be in war-needed categories, but other goods will be finding shipping space as



He's sick of the war—but not sick enough

► America's production figures look good. Almost every day the newspapers state that we've made 10 per cent more of this or 7.9 per cent more of that or built an extra thousand of this and that.

That's fine. But we'd better not forget that our enemies aren't sitting around doing nothing. Comparing last month's American production with this month's isn't the final answer, because we can only guess at what the Germans and Japanese are doing. They may be sick of the war—but they're still going strong.

In the meantime American industry—its workers, its management, its research divisions—needs to keep stepping up production at an ever-increasing tempo if we're going to win—and win as soon as possible. Every day the war lasts costs more American lives.

We've got to make the most of our materials and manpower—to get along with less, learn to do without, work harder and faster.

If the 4000 workers who are today engaged in making Ethyl antiknock fluid (for use in high-octane military gasolines) can be considered as typical—we'll be all right. These men and women are making good their wartime slogan, "Every drop of Ethyl counts." They are producing enough Ethyl and producing it on time.

ETHYL CORPORATION

Chrysler Building, New York City

Manufacturer of Ethyl fluid, used by oil companies to improve the antiknock quality of aviation and motor gasoline



WASHINGTON BULLETIN

(Continued)

wollen stockpiles of war goods are reduced.

WPB now anticipates that this year's imports of pickled sheep and lambskins will reach 100% of 1941, has increased import authorizations for War Food Administration, is considering a boost in imports of molasses to replace grain alcohol production.

Delay on Renegotiation

There isn't much chance that a congressional overhaul of contract renegotiation will get under way before next fall at the earliest. The House Naval Affairs Committee is raising a lot of dust with its current hearings, but it has no legislative program. Its main object is to give everybody a chance to sound off.

The House Ways and Means Committee still is slated to handle revision of the renegotiation law. It shows no signs of getting down to work until after the summer recess.

Warned on Overprotesting

Several shrewd Washington representatives are advising their bosses back home to soft-pedal criticism of renegotiation. They reason that Congress is going to insist on profit control of some sort. If it scraps renegotiation, it will substitute something else. Renegotiation is a lot easier for business to swallow than a flat profit limitation, which is the main alternative.

Besides that, the Treasury still is eyeing corporate profits as a source of new taxes. If Congress should take the teeth out of renegotiation, the Treasury almost certainly would bob up with a 100% excess profits tax or something similar.

How Many Shoes?

OPA has decided to validate stamp No. 18 for a pair of shoes in the next four months, thus adhering to its tentative promise of three pair per year. The ration agency well knows that a five-month interval would be more realistic, but it wishes to avoid alarming the public.

Actually, nobody can tell exactly how many civilian shoes will be produced; WPB estimates vary by as much as 50,000,000 pair per year. OPA hopes the true figure will be on the high side, but if the ration based on the high figures proves to be too liberal, it will be cut later on.

Meantime, the buying rush last week, occasioned by expiration of stamp No. 17 (page 96), will probably teach OPA

the simple lesson that buying peaks can be cut if the effective periods of ration stamps are allowed to overlap each other.

Draft Argument

Civilian manpower authorities have not given up urging the Army to pare down its draft quotas and slow up on taking fathers. Latest argument is the most down-to-earth that has ever been put before the "big Army" advocates.

It turns on the addition to the United Nations forces of 500,000 North African French and native fighting and auxiliary units. The arguers say that, when 1943 Army quotas were blueprinted early in 1942, North Africa was not counted on to furnish a single man; that shipping could be more economically used to equip further these largely seasoned troops than to send equipped but green Americans overseas.

Who Will Be Called When

Date for the drafting of fathers keeps retreating farther into the future. Originally scheduled for July, it now looks more like August or September, and the latest date to be mentioned is October, but such postponement should not be taken too seriously by fathers who are not in essential industries utilizing replacement schedules.

Essential industries have been instructed to start scheduling their fathers for induction on Oct. 1. For others, it is likely to start earlier, though Selective Service is doing all it can to postpone the evil moment.

Very conscious of the political pressures involved, Selective Service would like to go over its files of 4-F's again or pull in the childless men over 38 before it gets to the fathers. But first, Army and Navy must reduce their physical requirements and agree to take more men for limited service—which they resist stoutly.

What SSS can do and is doing is get tougher about occupational deferments, particularly about deferments of single men under 25.

Farm Deferments Tightened

Selective Service may also tighten up on deferments of farm workers, now running at the relatively high rate of 300,000 a month. War Food Administration has indicated that there's plenty of labor on farms (page 20), if it is used efficiently, and War Manpower Commission says that 17,000 men a month have been leaving other jobs in order to seek deferment from the draft in agricultural work.

More for Farm Machines

WPB's allocation of 900,000 tons of steel for farm machinery for a full year ahead isn't expected to keep farmers quiet long, although Lee Marshall, Deputy War Food Administrator, feels that he's gone right down the line for them in persuading WPB to approve a schedule that allows production ranging from 23% of 1940's volume in less needed items to 240% of 1940 in most needed items.

Grade Labeling Wanes

The furor over grade labeling and standardization is subsiding. These "reforms" are pretty well buried, now that the hold-the-line inflation order is slipping and Dr. J. Kenneth Galbraith has departed from OPA. Also, Rep. Lyle H. Boren's Committee to Investigate Restrictions on Brand Names and Newsprint has been an effective sounding-board for opinion from the business side of the fence.

The situation may, in fact, change so much that OPA will ultimately revise MPR 339—the regulation calling for grade-labeling of women's rayon hosiery. The price agency has lately taken to calling the order an "experiment."

Heat Is off War Models

WPB's Simplification Branch probably will be merged with the Office of Civilian Requirements. This portends continued leniency as regards standardization, with all action subject to the assent and cooperation of industry. Any coming "war models" will merely be simplified, middle-price items, voluntarily produced by manufacturers who agree to go along with the program.

Issues Not Dead

Even if grade labeling and standardization have failed to ride in on the coattails of a war economy, they are by no means dead in the postwar prospect. The unions are interested in them now, and with consumer counsels like Donald Montgomery of the United Auto Workers on their payroll (BW—Feb. 20 '43, p98), they'll have a cut-to-order program for the next depression.

Worry over Soldier Vote

The soldier vote in 1944—potentially big enough to swing most Presidential elections—is getting some thoughtful consideration from politicians.

Sen. Robert Wagner has already



Look on the roof of

The Best Heated Building in Town

Here is the symbol of heating "Controlled-by-the-Weather."

It is the Outdoor Thermostat of the Webster Moderator System, an automatic central control that is saving precious fuel for hundreds of America's best heated buildings and releasing much needed transportation facilities for other purposes.

The Webster Moderator System supplies steam continuously to all radiators, automatically changing the heating rate with changes in outdoor temperature.

"Control-by-the-Weather prevents wasteful overheating . . . reduces costly window opening in periods of mild weather. Radiator temperatures may vary from 212° to 150°, or even as low as 90°, depending on the need for heat."

The Webster E-4 Moderator System is a steam heating control that anybody can understand. There are just four control elements—an Outdoor Thermostat, a Main Steam Control Valve, a manual Variator and a pressure Control Cabinet. These elements, plus small metering orifices to assure each radiator its share of steam, result in the highest expression of comfort and economy in modern steam heating.



For men who are planning building construction or modernization both now and after the war, we have a free book giving case studies of 268 modern steam heating installations. Write for "Performance Facts".

WARREN WEBSTER & CO., Camden, N.J.
Pioneers of the Vacuum System of Steam Heating
Representatives in principal Cities—Established 1888



Webster
Steam Heating

WASHINGTON BULLETIN (Continued)

needed the War and Navy departments to start early on setting up the machinery for military absentee balloting. He remembers that last year's legislation, guaranteeing absentee voting privileges to all servicemen in elections to national offices regardless of state law, came too late to be very effective in the congressional elections.

General assumption is that the soldier vote is a Roosevelt vote, but some Democratic politicos who have been checking on antilabor sentiment in the camps are beginning to think it may prove just as well if the khaki vote doesn't get too good a chance to counterbalance the overall vote.

CAB and Its Flying Circus

Don't be surprised at anything. Several domestic airlines have filed claims on round-the-world routes to be flown after the war. Northeast Airlines has asked for 600 helicopter stations in New England. Penn-Central Airlines has announced its intention to file for a seadrome transatlantic route. Now comes the Greyhound Corp. with a plan to haul passengers, mail, and express by helicopter (page 32).

As for Greyhound, the Civil Aeronautics Board opposes control of air-

lines by ground or water carriers—unless its recent decision to divorce American Export Steamship from American Export Airlines.

And for the information of all concerned, CAB reiterates that the date of filing applications for postwar operations establishes no priority.

Capital Gains (and Losses)

As an incidental effect of pending congressional restrictions on use of the President's emergency fund, Secretary Harold L. Ickes may run short of working capital for operating the coal mines. He has a \$10,000,000 stake out of the fund.

The girls are leery. Waas enlistments have been off for some time. Now enrollment in the Waves has dropped from a former 1,000 a month to some 600. Admiral Randall Jacobs, chief of the Bureau of Navy Personnel, thinks the drop may be "seasonal."

The McKellar bill, requiring senatorial confirmation of federal employees earning more than \$4,500, will be pigeonholed by the House, which isn't excited about senatorial patronage.

—Business Week
Washington Bureau

Home-Town Boys Make Good

Joseph L. Weiner, former chief of WPB's old Office of Civilian Supply (now Office of Civilian Requirements), has launched his own law firm with Cities Service Oil Co. prominent among his clients.

Thus Weiner, who was a New York City lawyer before he went to Washington on a job for the Securities & Exchange Commission five years ago, follows the lead of several other New Deal lawyers and economists who—after criticism from business men and industry—have finally wound up in the ranks of business themselves.

In the vanguard of this trend was Leon Henderson, ex-OPA boss, who landed three jobs at once: adviser to the Research Institute of America, adviser on inflation and similar matters to several clients of his own, and radio commentator.

Similarly, Thurman Arnold—for all the uproar over his trust busting—was offered a \$100,000 job with a New York law firm, although he has declined it in favor of the District of Columbia Court of Appeals.



Only major New Deal economist currently available is Dr. J. Kenneth Galbraith, former deputy OPA price administrator, who is recuperating from a two-year hammering in the price agency.

FIGURES OF THE WEEK

THE INDEX (see chart below).

INDUSTRY

	\$ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
Steel Ingot Operations (% of capacity)	97.8	97.5	98.6	98.4	98.3
Production of Automobiles and Trucks	19,065	+17,215	19,675	17,835	22,300
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	\$11,618	\$12,474	\$11,925	\$14,343	\$42,319
Electric Power Output (million kilowatt-hours)	4,040	3,926	3,969	3,938	3,464
Crude Oil (daily average, 1,000 bbls.)	3,988	3,933	3,984	3,881	3,700
Bituminous Coal (daily average, 1,000 tons)	526	+1,990	1,695	1,853	1,839

TRADE

Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	81	80	81	76	80
All Other Carloadings (daily average, 1,000 cars)	41	62	55	51	62
Money in Circulation (Wednesday series, millions)	\$17,237	\$17,196	\$16,741	\$14,986	\$12,176
Department Store Sales (change from same week of preceding year)	+1%	+43%	+12%	+10%	+7%
Business Failures (Dun & Bradstreet, number)	54	56	77	132	173

PRICES (Average for the week)

Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	244.8	245.4	244.8	235.3	228.4
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	159.8	159.7	160.0	155.8	153.0
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	208.7	208.4	206.5	190.5	181.0
Fininished Steel Composite (Steel, ton)	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Steel Composite (Iron Age, ton)	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.)	12,000¢	12,000¢	12,000¢	12,000¢	12,000¢
Wheat (No. 2, hard winter, Kansas City, bu.)	\$1.38	\$1.38	\$1.38	\$1.27	\$1.12
Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	21.10¢	21.14¢	20.97¢	19.60¢	18.71¢
Wool Tops (New York, lb.)	\$1.354	\$1.340	\$1.328	\$1.203	\$1.187
Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢

FINANCE

Stocks, Price Index (Standard & Poor's Corp.)	95.4	96.7	93.5	74.8	66.6
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.89%	3.89%	3.91%	4.30%	4.33%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.72%	2.73%	2.74%	2.81%	2.85%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years)	2.30%	2.29%	2.30%	2.36%	2.32%
All Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Time Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	4-1%	4-1%	4-1%	4-1%	4-1%

BANKING (Millions of dollars)

Demand Deposits Adjusted, reporting member banks	32,061	31,386	30,051	29,011	26,022
Total Loans and Investments, reporting member banks	46,808	47,182	47,289	38,444	31,736
Commercial and Agricultural Loans, reporting member banks	5,637	5,662	5,767	6,404	6,924
Securities Loans, reporting member banks	1,448	1,537	1,979	1,134	879
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	34,141	34,317	33,799	24,843	17,346
Other Securities Held, reporting member banks	3,077	3,077	3,096	3,297	3,546
Excess Reserves, all member banks (Wednesday series)	1,510	1,630	1,730	2,804	2,782
Total Federal Reserve Credit Outstanding (Wednesday series)	6,998	6,535	6,526	5,813	2,708

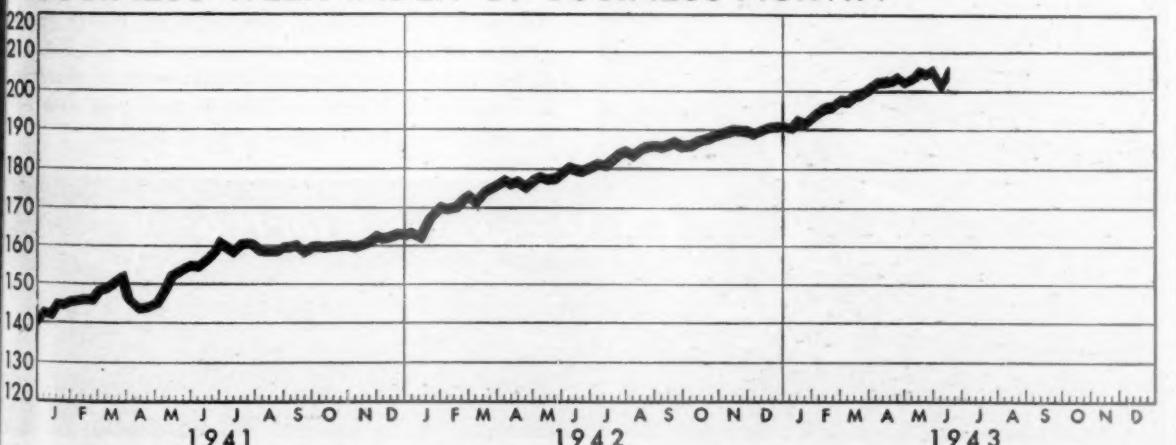
Preliminary, week ended June 12th.
Basing fixed by government.

† Revised.

‡ Series revised, now includes open market paper.

§ Data for "Latest Week" on each series on request.

BUSINESS WEEK INDEX OF BUSINESS ACTIVITY





RADAR puts the finger on our enemies!

Hiding above the clouds there's a plane. Anti-aircraft guns let loose—down crashes the enemy bomber.

How can you hit enemies you can't see—through clouds, darkness and fog? The answer is Radar—radio detecting and ranging equipment.

How Radar does it

Radar sends out a wave which searches the sky or sea. When this beam hits a plane or ship, it bounces back to the Radar. Traveling with the speed of light, the beam makes this round trip in a few thousandths of a second and tells you . . . *there he is!*

You keep the Radar focussed on him. It tells you direction, distance, speed, whether he's climbing or descending. Having this information, gunners direct their fire with deadly accuracy.

* * *

Radar is the result of the work of many research groups in this country and abroad. Bell Telephone Laboratories has played an important part in its development. Western Electric today is one of the world's largest manufacturers of Radar.

Western Electric

IN PEACE—SOURCE OF SUPPLY FOR THE BELL SYSTEM.
IN WAR—ARSENAL OF COMMUNICATIONS EQUIPMENT.



THE OUTLOOK

More and Still More for War

Military pushes for increased production—a million more of steel, for example—as signs accumulate that original output can't be met. Civilian share shrinks.

We are still doing "war business as usual." That fact is underlined by Washington's new move to boost third-quarter steel output 1,000,000 tons—urgent, not only in itself, but also as confirmation that the war is still continuing the outlook.

Civilian Demand Still Up

While some observers in recent weeks have assumed from the announced cuts in war contracts that partial diversion from war to peace products is approaching, the military has actually been stepping up the pressure for munitions—first by cutting most "direct war" uses of materials for the first quarter, now by pushing for a larger total supply of materials. The military isn't banking—it obviously can't afford to—on bombings of our industry, weakening of Axis morale, or even invasion of Europe to achieve full victory there this year. In time, more arms must be rushed for later campaigns. And, military shadiness will prevail in all production decisions as long as even the hope of victory remains in the slightest doubt.

Until the course of battle alters prospects, the squeeze will remain on railroad supplies, industrial equipment, machine tools, and the like.

Indeed, it is clear from those portions of Donald Nelson's report to the President on war production which were released this week that theoretical goals won't be met (BW—May 15 '43, p13) in this year as last.

Production Goals For 1943

For instance, the 1942 value of munitions and construction was projected at \$115 billion dollars, but only \$11 billion were turned out. This year, we are supposed to do \$84 billions—40% less construction, but 125% more munitions. Total war spending—including food for defense, military pay and subsistence—is to total \$106 billions. Actually, disbursements in May ran only at the \$8-billion-a-year-clip. And, they rose only 1% more than in April—a sign of our rapid approach to peak war potentials.

The types of arms we produce will likely be shifted around as much in the past; an increase in output of

one weapon requires a cutback in some other one. And, battle experience, on the sea and in the air as much as over land, will determine these changes in quantity and design of arms.

Chemicals Climb Fast

One of the sharpest expansions in production of basic materials for the war effort has occurred in chemicals, as is evidenced by Federal Reserve Board indexes (1935-1939 = 100):

Month	Chemicals	All Industry
Aug. 1939	97	96
Nov. 1941	149	167
Apr. 1943	217	203

It is significant that since Pearl Harbor, expansion of production of aluminum, magnesium, alcohol, ammonia, chlorine, and other basic materials has more than made up for the former lag

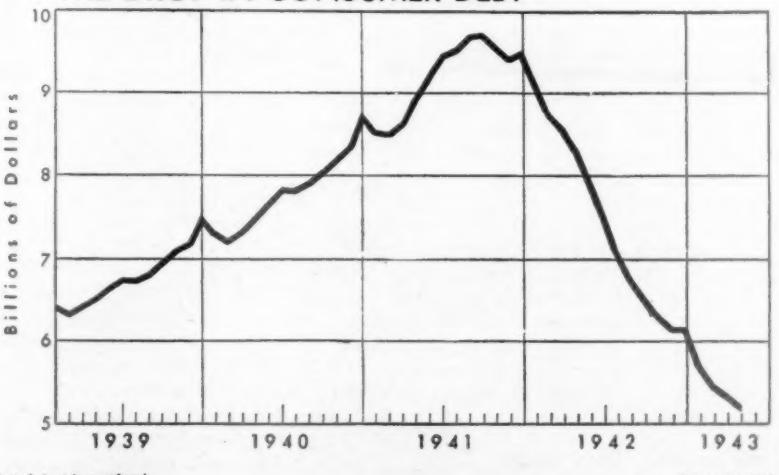
in chemical output relative to industrial activity as a whole.

Clearly, the bulk of the new capacity is devoted to war uses—explosives, synthetic rubber, light metals, chemical warfare, etc. "Peacetime" consumption, as measured by Chemical and Metallurgical Engineering magazine, has remained stable over the past year—increasing somewhat in the case of fertilizers, steel, textiles, plastics, etc., but declining, as might be expected, in the pulp, paint, and leather fields. Production in many of these chemical-consuming lines, of course, is largely devoted to war, so that the supply of chemicals going for ultimate civilian purposes has actually been markedly reduced.

Textile Production Lags

Civilian supply of most goods is declining, due to manpower shortage. Raw cotton consumption at textile mills ran 5% below 1942 in April and May, and with the government preempting the bulk of current production, this loss is cutting materially into the supply of towels, shirts, sheets, and similar products. Employment is off 2% from last year, and the use of in-

IN THE OUTLOOK: THE DROP IN CONSUMER DEBT



© BUSINESS WEEK

The decline in consumer debt is moderating. This fact will have mounting inflationary implications over coming months. For, since September, 1941, debt liquidation has been draining off more than three billion dollars a year from consumer income which would otherwise be available for inflationary spending. Credit restrictions and curtailment of durable goods production have been primarily responsible for

the reversal in consumer debt which, normally, tends to rise during periods of business upswing. But, as the charts on page 42 indicate, the types of credit most easily contracted have already been sharply reduced, and the monthly decline in outstanding debt will grow progressively smaller. By the year-end, this will be equivalent to a three-billion-dollar-a-year addition to surplus purchasing power.



SHELLS FOR SLUGS

Pouring from a heat-treating oven in Chrysler's ordnance plant at Evansville, Ind., steel cartridge cases pass through one of the 46 production operations of bullet production. Each one of the astronomical number of rounds produced must also stand 334 inspections before ready for firing.

experienced workers has impaired efficiency. The labor shortage is especially acute in New England but is worsening now even in the South.

Despite an even sharper reduction in employment in woolen mills—down a full 5% from 1942—actual production is up. However, inability to utilize full capacity and huge backlog of military orders will for some months prevent the industry from taking substantial advantage of the increased allocations of raw wool to civilians (page 88). Most woolen and cotton mills find it unprofitable to employ labor overtime, with the payment of time-and-a-half (The Trend, page 124).

Manpower is also pinching such service lines as laundries and dry cleaning and has cut pulp output 22% below 1942, with the result that the War Production Board is now contemplating a still further curtailment in the consumption of newsprint perhaps before the end of the year.

Less Goods, Less Sales

From now on, the dollar volume of retail sales is bound to fall off from the peak reached in the first quarter of this year—provided, of course, that the retail price line is held. At least, the physical flow of new textile, apparel, food, furniture, and other goods is declining, and inventories are being rapidly drained, as during last week's wave of shoe buying immediately preceding the June 15 ration deadline. Indeed, distributors' stocks of goods are off 20% from a year ago dollar-wise, and even more than that in physical terms.

A Surplus Worry

Everyone is worried about stocks of goods and materials that will be left after the war, but nobody has a solution.

Business men aren't the only ones who worry about the huge stocks of finished goods and raw materials that government agencies will have on hand at the end of the war (Report to Executives, page 51). To various officials, those surpluses represent either a potential headache or an alluring opportunity, depending on their point of view. Already two or three of the procurement agencies are maneuvering for control of excess stocks after the war.

• **Congress Keeps Busy**—So far, all the thinking has been strictly unofficial, but some of it is beginning to come out into the open. For several months, Congress has been kicking around a bill authorizing the President to regulate disposal of surpluses—if any—during the war. Recently it added a provision setting up a joint committee of House and Senate to plan postwar liquidation of excess stocks.

However, the transmutation from official to unofficial hasn't made thinking any more definite. At this stage of the game, only one thing is certain—that the surplus problem at the end of the last war was small in comparison with the one coming up. Estimates of the total excess we shall have range from \$20,000,000,000 to \$50,000,000,000. In congressional hearings, witnesses predicted that there would be something like 20,000,000 pairs of shoes left over, perhaps 1,000,000 trucks and other Army vehicles that could be converted to commercial use.

• **What Happened Last Time**—Although estimates like this aren't worth much, they give an idea of the size of the problem. At the end of the last war, the government had roughly \$3,750,000,000 worth of goods to unload, and in spite of reckless liquidation and the leaving of goods abroad, some of this surplus hung over the market for years.

Big trouble just now is that nobody knows how much surplus there will be this time or what form it will take. Plenty of estimates are available, but all are pure guesswork. Until we can forecast the end of the war and its cost in terms of materials, we won't know how much will be left over.

• **Washington Big Stick?**—While nobody wants a repetition of the indiscriminate selling, scrapping, and giving away that followed the last war, there isn't any real agreement about what we should have instead. Business men are afraid that the surpluses will give the government a club it can use to regulate the markets after it abandons present

controls. A good many officials think too, and like the idea.

Others are afraid that if they keep excess stocks hanging over the market, business will be slow and timid after reconversion.

• **No Blanket Order**—All these worries and suspicions came to a head when Rep. James A. O'Leary, chairman of the House Committee on Expenditures of the Executive Departments, introduced an Administration-sponsored bill giving the President authority to decide what property was surplus and to order its sale or transfer. Wary congressmen balked at so hazy a grant of authority.

As a substitute, Rep. Carter Mann offered a bill to create a special board of seven members for handling disposal of surplus war materials. Keystone in this idea was to have three independent representatives sit on the board, the other four being government procurement officials.

• **Postwar Committee**—Under Administration pressure, the committee finally went back to O'Leary's plan as utilization of any surplus supplies during the war is concerned. To aid postwar liquidation, it proposed a committee consisting of five members each from the House and Senate. If the bill passes the Senate in its present form, that committee will have the task of estimating the size of postwar surpluses and recommending legislation to regulate their disposal. As the committee starts work, the quiet but intense struggle for control of surplus disposal will focus on it.

It's not clear yet just where the various government agencies stand on the question. Most of them don't like themselves, because top officials in the same agency often have different opinions. The War Dept. and Treasury Procurement are playing their cards close to their vests, waiting to see how the situation shapes up. The Navy doesn't expect to have much of a surplus problem, because most of what it owns can't be converted to civilian use.

• **Various Viewpoints**—However, the real problem is not who shall control disposal of surpluses, but what general policy to follow in throwing excess goods on the market. On this point, most of the arguments reflect pretty clearly the interests of the men who advance them.

Raw material producers as a group want everything scrapped or dumped abroad.

Manufacturers would like to see finished products shipped out of the country, but they wouldn't mind some sacrifice liquidation of raw materials.

Dealers would be satisfied if the government would move its surplus through regular distribution channels.

• **Individual Problems**—It's obvious the job can't be done by any flat rule. Each individual surplus must be fed into its own market at a different rate.

More Animals than Meat

We have almost as many hogs as we have people—and other livestock aplenty—but growers can't find feed for them. Yet some experts doubt the corn crisis is all it seems.

Yesteryear's campaign slogan of a chicken for every pot was overmodest. Today, without bragging, it could be a pig for every pot. A succession of three mid-beating pig crops brought about incredible abundance. Spring farrowing for 1943 ran about 20% above the spring of 1942 in terms of pigs saved. Today, there are in the United States nearly as many hogs as people. Likewise, there are more cattle on farms and hens than ever before; the sheep population falls just short of last year's all-time peak; poultry flocks are also up as indicated by May egg output, 13% above a year ago. And, in the midst of this illusory abundance, the armed forces have been forced to commandeer 45% of beef production.

Practical Capacity Topped—Experts pretty generally agree that long-continued exhortations from Washington for more hogs, cattle, sheep, and poultry, abetted by price ratios abnormally favorable to feeding livestock to heavy weights, have developed a greater animal and bird population than the nation can continue to support under war conditions. An indication of the volume of livestock on farms is the current run of livestock to slaughter; the hog slaughter rate is the highest on record, and there are still lots of hogs to come.

May and June slaughter is usually heavy, because at this season, last fall's pigs are seven or eight months old and weigh upwards of 250 lb. This May, the federally inspected slaughter was 5,357,000 head, largest ever. For the first five months of 1943, slaughter was 24,247,000, which is 400,000 head above the 1924 all-time record.

Also, it is commonly accepted that uncounted slaughter has increased, if not for black market then for home consumption and curing by forehanded farmers and small-town folks.

Series of Anomalies—This talk of record livestock population and record slaughter may sound incredible to housewives who search their neighborhood butcher shops in vain for enough meat to use up their red coupons. It sounds quite as strange to farmers and agricultural economists. Their thinking has been conditioned by decades of grain surplus. To most of them, the idea had hardly occurred that we might run out of feed.

What happened was simple. John Farmer has, this past year, just as last year, bred all his cattle, hog, and sheep she-stuff. He planned on producing enough young animals to consume the

corn in his crib, plus what he expected to buy from the neighbors' bulging granaries. Meanwhile, the neighbors were up to the same thing, with an eye on what they thought John wouldn't need.

• **Basic Situation Changed**—This epidemic of over-optimism is now about to catch up with the country. Grain feeds are being consumed faster than they can be replaced, assuming normal weather and average yields. Even many of the states which formerly sold cash grain are now counting on importing millions of feed units from other states to make up their own deficiencies.

Typically, an Iowa survey shows that 70% of farmers are asking for special feeds at the feed stores and elevators, as against 30% in former years. Estimated need of New York State farmers is 2,000,000 tons of shipped-in feed for dairy cattle this year. The East has always had to buy complete feed, this year cannot pull enough grain from the Middle West at ceiling prices.

• **Figures Look Bad**—All of the official figures indicate that the nation's stocks of corn and other feed grains are running low. Visible supply of corn at important market centers decreased 3,400,-

000 bu. in one week early this month, reducing total stocks to 18,600,000 bu. compared with 57,500,000 bu. a year earlier. Even the major corn processors in the heart of the corn country are having trouble to get enough to run their mills (BW-Jun.12 '43, p22). Corn Products Refining Co. closed down its Pekin (Ill.) plant for five days and is hoping to avert a shut-down of its huge Argo plant near Chicago.

While gloom is rampant in many quarters, a less pessimistic school of thought prevails among folks much closer to the grassroots, hog pens, and feed lots. These people, including some prominent agricultural school authorities and the Corn Belt Farm Dailies, point out that the country today contains countless cribs of corn which appear in no official tabulations.

• **Holding for a Price**—Farmers who do not need this corn for feeding are holding it because they foresee that corn ceilings cannot be indefinitely maintained at \$1.07 Chicago basis against the pressure of hogs priced no lower than the federally maintained floor of \$13.75. Farmers who feed sizable herds are holding surplus grain against next year's possible needs because of their doubts about the adequacy of what they will harvest this year.

Tending to substantiate this outlook is the Commodity Credit Corp.'s experience when the corn loans were called in April. Instead of signing over the corn as they had always previously done, borrowers in unprecedented numbers



ROLLING VITTLES

Nourishing food for workers is essential to insure war production schedules. How to serve it in today's sprawling factories is a major industrial problem. In many plants, cafeterias are a fast ten-minute walk from the work lines, leaving workers scant periods to gulp down their meals, then hustle be-

fore the lunch session ends. Result: indigestion. To combat absenteeism and to shortcircuit slowed production traceable to digestive ills, mammoth plants, such as Ford's Willow Run (above), send tractor-drawn trains of self-contained cafeteria units down the factory aisles. Each unit is dropped off at stations convenient to workers, who eat at their benches.

laid cash on the barrelhead, took their corn out of hock. A persistent rumor in grain trade circles asserts that CCC's takeovers of corn were far below expectations, but probably it has sold no more than it can deliver.

• **The Brighter Side**—Among the optimists is the University of Wisconsin's respected Prof. Gus Bohstedt, top-notch animal nutritionist. He pointed out last week that the U. S. has never had a real crop failure and predicted that 1943 will not break this record. He further prophesied that the feed situation will be less serious than it now appears.

If the need should become critical, he and others of the more cheerful experts are sure that bottoms will be allotted to bring in supplies of feed from South America's huge surplus. But grain trade reports hold that last year's Argentine surplus has been fed, burned, and otherwise used up, that the newest crop was a failure, that it has, therefore, no sizable excess.

• **Milk Supply Suffers**—Feed retailers meeting last week in Milwaukee learned that Wisconsin's milk production is slipping for lack of commercial feeds. They were told that 25% of the nation's expected beef supply can fail to materialize if feeders cannot finish cattle to desired weights. Dean H. E. Babcock of Cornell, reporting as chairman of New York's food emergency commis-

sion, last week warned that hogs are consuming grain that may later be needed for sustaining human life.

Curbstone critics have pretty generally assumed that, because of the corn-hog price ratio and the government pressure for lardy hogs, farmers are feeding their livestock to much greater weights than normal. Stockyard statistics indicate that weights are running very close to what may be expected at this season for fall-farrowed hogs.

• **Only Slightly Heavier**—A few weeks ago, Chicago hogs were averaging about 15 lb. heavier than usual. But the Chicago average weight last month was 263 lb., as against 261 lb. in May, 1942, and 256 lb. in May, 1941. The hog price two years ago was about \$4 below current levels, which recently scraped the federal floor of \$13.75.

Major grain producing areas have experienced a cold, wet, late spring that has made the feed situation more critical. According to the Babcock report, New York State farmers had, on June 1, completed only 35% of their spring plowing, as compared with 88% normal for this date, and only 12% of their spring planting instead of 73%.

• **Crop Report Is Gloomy**—The spring work of farmers all the way across the Corn Belt to the Mississippi, and south almost to Texas, was comparably retarded. A brand new government crop

estimate puts this year's probable yield down 26% from 1942, oats 14%, barley 13%, rye 35%.

When the American Feed Manufacturers Assn. met in Chicago late last month, its program focused on how to stretch a short supply of feed across demand bred of more animals than ever. Most critical situation is in high protein ingredients. When fed adequate protein, farm critters and birds eat more meat, milk, or eggs per bushel of grain fed (BW—Feb. 27 '43, p.15). High livestock, milk, and egg prices put premium on heavy feeding of protein.

• **Warnings to Breeders**—The War Food Administration has asked commercial poultry raisers not to increase production this summer and fall, and has asked hog producers to hold the fall farrowing to within 15% of the number of last year's litters. The Feed Industry Council is urging farmers to reduce their animals and birds in proportion to feed supplies.

Shortage of protein feeds is estimated at almost 2,000,000 tons, or 19.6% of the total available. Manufacturers stubbed their toes against this shortage early last winter, when many a mill closed down for lack of protein ingredients. Since then, no mill may have on hand more than two weeks' supply of high protein ingredients.

• **Spreading the Supply**—Government authorities and the Feed Industry Council are together recommending feed conservation through a schedule that calls for lower protein levels in livestock and poultry feeds, well below the lush prewar proportions urged by feed manufacturers when proteins were plentiful—and profitable to sell. Feed manufacturers are eager to keep the program of sharing protein feed on a voluntary basis, thus avoid the complexities of government control over distribution (BW—Jun. 12 '43, p.17).

Hope for increased domestic protein supplies has practically disappeared, but there seems an excellent chance that the urgent need may relax shipping restrictions enough to bring some tonnage from abroad. Washington is hoping that shipping to bring in at least 40,000 tons of South American meat scrap may be allotted, and that this may perhaps be increased to 60,000 tons. One thousand tons of Newfoundland fish meal (of 200,000 tons needed) were recently delivered here, with hints of more to come.

• **More Fish for Food**—Fish meal processors are griping because a quirk in OPA regulations holds down their supply of domestic raw materials. There is no price ceiling on fresh fish for edible use; consequently, more than the usual proportion of food fish is being sold whole instead of cleaned or filleted, and the heads, tails, bones, and viscera are being lost to the fish meal mills, hence to animal and poultry feed.

A-B-C's of the Corn Situation

The largest corn crop in United States history was harvested last fall, but it doesn't seem to be satisfying demand. In fact, so much is required to feed immense herds of livestock and flocks of poultry that expansion of industrial use is being retarded even though needs are the greatest ever (Table I). Next year, on present tentative estimates, the crop will be substantially smaller, feed for livestock will be scarcer, and the pinch on industrial users even tighter. (Note that feed and all other uses can top any given year's crop because of old grain carried forward.) How the industrial demand for corn breaks down by classes of uses is shown in Table II, with alcohol (munitions, synthetic rubber) going strong.

TABLE I
(Millions of Bushels)

Crop Year Starting Oct. 1	Corn Harvested	Used as Feed	All Other Uses
1943*	2,850*	2,850*	275*
1942	3,175	2,932†	285†
1941	2,675	2,530	278
1940	2,462	2,261	230
1939	2,580	2,225	208
1938	2,548	2,093	199
1937	2,642	2,016	192
1936	1,505	1,519	199
1935	2,299	1,992	216
1934	1,448	1,577	180
1933	2,397	2,255	186
1932	2,930	2,623	182
1931	2,575	2,295	174
1930	2,080	1,872	176
1929	2,515	2,313	201
1928	2,665	2,357	213
1927	2,616	2,514	207
1926	2,546	2,397	199

* Tentative estimates; 1943 production based on farmers' planting intentions and not adjusted for flood losses and delays.

† Partially estimated.

TABLE II
(Millions of Bushels)

Crop Year Starting Oct. 1	Starch, Sugar, Syrup	Alcohol, Alcoholic Beverages	Cornmeal, Breakfast- Food	Household Food	Use on Farms	Exports as Grain (In Thousands)
1941*	127	61	50	24	16†
1940*	100	34	49	30	15	14,554
1939	83	27	49	32	15	43,828
1938	75	25	47	33	16	33,880
1937	71	25	46	32	16	139,475
1936	66	38	44	32	17	136
1935	75	43	44	33	18	511

* Partially estimated.

† Exports for 1941-42 crop year confidential.

Car Card Wrangle

C.I.O.'s effort to sign up
Kaiser workers puts Portland
traction company in middle-
so the tune of \$80,000.

Car cards got an important testimonial this week, but one their supporters are not likely to brag about. The testimonial: Car cards in a city transit system are worth 20 organizers in building a labor union.

Part of Union Fight—In Oregon, Portland's venerable traction company is playing innocent bystander in a battle between the powerful A.F.L. Boilermakers Union, which holds contracts with Henry J. Kaiser's Portland shipyards, and the C.I.O. Marine & Shipbuilding Union, which recently began a campaign to muscle in on a lucrative labor situation (BW-Jun.5'43, p77).

But the traction company is defendant in an \$80,000 damage suit brought by angry C.I.O. officials concerning advertising cards placed in 75 of its shipyard buses by the union as part of the C.I.O. organizing effort. The suit claims that the company removed cards because the Boilermakers Union threatened to wreck its buses.

• **Basis of the Claim**—Portland's No. 1 C.I.O. organizer, Irwin De Shetler, contends that removal of the signs "cost us the work equivalent to the efforts of 20 organizers." He also claims the cards were not inflammatory, that they merely carried the statement that shipyard workers would have more money to spend on war bonds and necessities if they insured their future with the C.I.O. Monthly dues in De Shetler's union are \$1.25 compared with the boilermakers' fee of \$3.50, and C.I.O. asks no initiation fee while the boilermakers get \$25.

The union intends to file unfair labor practice charges against the company with the National Labor Relations Board, claiming that, by removing advertising cards from buses, the company was helping A.F.L.

• **New C.I.O. Charges**—Meanwhile C.I.O. tells Kaiser management that it has no right to discharge anyone for failure to pay dues to A.F.L. because International Assn. of Machinists has withdrawn from A.F.L. (BW-Jun.5'43, p78). C.I.O. says it will file with NLRB new charges of discrimination and coercion against Kaiser.

According to C.I.O. officials, the master agreement between A.F.L. and Kaiser specifies that all workers must be members of A.F.L. in good standing. "If the machinists' union doesn't pay money to A.F.L.," asks De Shetler, "how can its members be forced to do so?"



STEEL WORKERS' GARDENS

Blast furnace slag dumps, usually the eyesores of steel centers, are now providing fertilizer for Victory gardens operated by the men who produce the slag. At Duquesne, Pa., Carnegie

Illinois Steel delivers the slag to a 13-acre garden plot which the company and city fathers had prepared for the free use of steel workers. Containing calcium oxide, the iron residue is equivalent to 45% lime as a conditioner for the soil.

Beef Mystery

How can eastern buyers outbid Chicago for live steers under OPA ceilings? That's the current black market riddle.

Black market significance was read into middle-western beef cattle statistics released early this week. Cattle were moving into Chicago at about the same rate as last year, which would seem to be all right. But, going deeper into things, it turns out that the cattle weren't all coming into the Windy City to be slaughtered; rather, a lot were only to be transshipped to other markets.

Figures for the first five months of the year tell a fairly significant story: Total receipts in Chicago were 814,773 head against 820,143 last year; outbound shipments, however, bounded to 343,141 head compared with 220,192 head in the 1942 period.

• **Scope of the Diversion**—The Daily Drovers Journal estimates that approximately 35,000 of the outbound shipments went to stockmen and cattle feeders in each year. This leaves net shipments to trade buyers, practically all of these in the East, at 308,000 this year against 185,000 last, an increase of nearly 70%.

Chicago packers, pinched for raw material for their beef departments, are un-

happy about the situation. How, they wonder, can easterners consistently outbid their own buyers? Retail meat price ceilings are zoned to be only as liberal at New York as at Chicago, and the eastern buyer has no mystic formula by means of which he can pay more for live cattle than the legitimate retailer can get from his customers.

• **Effect of Rollback**—On Monday, with the 10% meat price rollback taking effect next day, cattle prices at Chicago and other major markets fell sharply (as much as 50¢ to \$1 per hundredweight for the medium grades of cattle). Packers explained that no provision or appropriation exists for paying them the poundage subsidy which they are supposed to collect from the government so that they can continue to pay prevailing prices for live animals. As long as they don't know where the money is coming from, they are taking off the price of the livestock as much of the rollback as they can.

Here's their theory: They cannot afford to pay out millions of dollars against security no more tangible than a contingent credit from the federal government—which might go wrong if Congress kicks all subsidies in the teeth.

• **Is Congress on the Spot?**—Off-the-cuff prophecy: With livestock growers squawking bloody murder, and subsidies so ballyhooed that Washington dare not back down, Congress, under Administration pressure, will vote the money pronto and salve the farm vote.

Nazis Hoe Cotton

In Texas camp, German prisoners work for their meals and seem glad to do it. Farmers clamor for their help.

The big Negro perched on the tractor indulged a moment of reflective eloquence as he gazed across the cotton fields at the cluster of German prisoners of war, chopping cotton as complacently in Texas as they had pursued their peace-time occupations in the Fatherland. "It's a pity," he murmured, "that nice young folks like them has to get in such devilment that they has to chop cotton so far from home."

• Now Peace-Loving—Hacking at the weeds and grass which choke the cotton plant, they belied the ferocity of the Herrenvolk who stormed Stalingrad and who spearheaded Rommel's forces in North Africa. They were young—about 20 years of age on the average—and assiduously peace-loving, now that their only weapons were hoes and a guard armed with a tommy gun observed their labors.

Interned at an Army prison camp near Huntsville, Tex., the veterans of the Russian and Tunisian campaigns are farmed out to cotton growers in the vicinity for \$1.50 a day, plus transportation cost. The wild clamor of the farmers for prisoners attests to the value of their labor.

• Eager to Work—Squads of prisoners have been taken as far as 40 miles from the camp to work, but distances beyond that have proved impractical. Work outside the camp is optional with the prisoner. Camp officers report that all the men are eager to get the work, for out of that \$1.50 a day, the prisoner gets 80¢ in coupons which can be spent at the canteen for tobacco, toilet arti-

cles, and sundries not furnished by the Army; the other 70¢ goes to the camp for the prisoner's subsistence.

The popularity of the outside work introduces the problem of training the prisoners to be farmhands. W. L. Maxwell, a farmer who employs a gang in his cotton fields, reports that the men are smart and willing to work and would make good helpers if given time to learn the ropes. But the work must be spread out so that all may have a crack at it. This means training a new crew of farmhands practically every day.

But the farmers in that area are grateful for any help they can get, and the Texas experiment is being watched for its possibilities as a reserve of agricultural labor.

• Army Approves Contracts—The prisoners work under contract between Col. J. R. Carvolth, commander at the camp, and the farmer; contracts require Army approval. Civilian farmhands are not permitted to mingle with the prisoners. In fact, Negro laborers fled in fear at first approach of the aliens with their armed guards, and it was some time before they could be induced to return to the fields.

The prisoners are allowed a measure of self-government inside the barbed-wire stockade. Their present elected leader is a paratroop sergeant. He is their "collective bargaining" representative in all questions arising for adjudication by the camp commander. There are no commissioned officers imprisoned at the Texas camp, and men of the

grade of sergeant or higher are not required to work. The others cook for the camp, keep the grounds policed, operate the canteen, and do other chores. They have no contact with civilians, and the guards are forbidden to fraternize with them.

• Cheerful at Work and Play—But the prisoners take these regulations in stride. They are as cheerful at work as at play, and they do a superior job of both. They keep their barracks and mess halls scrupulously clean. Hitler is the favorite pin-up with some of the prisoners, but the majority have a hankering for the image of Hedy Lamarr or Lana Turner above their bunks.

They are well drilled and extremely well disciplined. They obey commands smartly and sing as they goose-step to work. One day an American sergeant, marching a group down the road, found himself groping in his vocabulary for the German equivalent of "Halt!" He threw up his arm to stop them and they chorused, "Heil Hitler!"



German war prisoners, heavily guarded, complacently chop cotton on Texas plantations near their Huntsville concentration camp. One of their employers is H. V. Porter (right). Censorship deletes captives' faces from pictures, in accordance with a Geneva pact to spare them embarrassment.



on Ore or Grain?

OWM may have to choose between them because shipment of ore is 8,500,000 tons behind, due to freeze on Lakes.

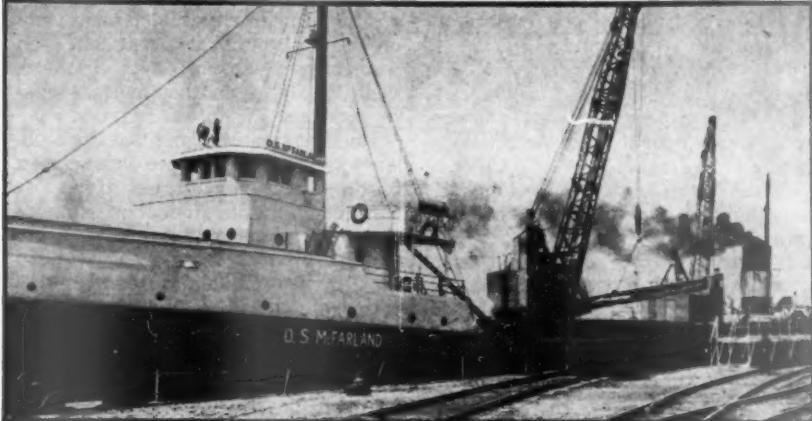
As the Great Lakes shipping season begins into the third month, vessel operators are groaning under what they believe are impossible quotas. Before the season ends (usually November or December), the Office of War Mobilization may have to decide whether iron ore requirements are more important than grain.

Grain Shippers Ask More—Latest quotas set by the War Production Board include 91,000,000 long tons of iron ore (5,000,000 under the early-season figure and 1,000,000 under the 1942 record movement) and 135,000,000 bu of grain. Grain shippers, however, met in Chicago last week end and decided to ask the WPB and the Office of Defense Transportation to boost this quota to 154,000,000 bu. Last year's grain movement was about 110,000,000 bu. Wheat, feed grain, and flax requirements this year are progressing upward. Spokesmen for the Lower Lakes Grain Committee and the Northwest Grain Storage Committee said unfavorable weather had reduced eastern feed crops, while price ceilings and feeding ratios cut off the normal flow of midwestern corn.

Ore Shipments Lag—Iron ore cargoes, meanwhile, because of the late opening of the season (BW—Apr. 24 '43, p 46) are far behind quotas, and about 8,500,000 tons behind June of last year.

The ODT announced that iron ore deliveries by lake freighters to June 3 totaled 12,550,836 gross tons this year, compared with 20,839,647 gross tons to the same date last year. ODT Director Joseph B. Eastman explained that logs had delayed traffic, wrecked three vessels, and damaged seven others badly enough to lay them up from one to four weeks each for repairs; that Canadian ore loadings are lagging behind last year; that 27 ore-type vessels are in the grain trade as against none at this time last year; and that only 3 of 16 carriers being built for the Maritime Commission are in service.

Permit System Extended—Determined to meet quotas, if possible, the ODT this week extended its lake vessel permit system to bring virtually all commercial shipping on the Lakes under day-to-day control. Last year a priority system gave preference to iron ore cargoes. The new system requires every vessel, except passenger boats, railroad car ferries, iron ore carriers, and boats under 1,000 tons capacity, to obtain an ODT permit for each cargo. Self-un-



SELF-SERVICE SHIPS

Needing no land facilities for loading and unloading, crane-equipped freighters (above) are among the most versatile carriers. This season, Columbia Transportation added its fifth such steamer to the Great Lakes run where docks are particularly jammed. Each vessel is equipped with two 45-ton cranes for self servicing. The cranes have slings, magnets (for scrap metals), and 2½-cu.-yd. clamshell buckets (right) for bulk cargoes. One of these ships recently demonstrated its versatility when inland waterway floods delayed barges carrying sulphur slated for transhipment to Chicago. Instead of idling, the freighter crossed to Escanaba, Mich. and, in one day, loaded

2,000,000 b.ft. of timber consigned to the Soo. From there it went to Calumet, Mich., and picked up a load of stone for South Chicago—returning in time to load its originally scheduled cargo of sulphur from the barges.



loaders, exempt from the permit system last year, now must obtain a permit for each cargo.

Coal movements are to be cut back, and limestone loadings are to be limited to requirements figured up to next Apr. 15, when all lower lake docks will be expected to have inventories of stone reduced to zero.

Silver Lining—There are two rays of sunshine in the generally gloomy lake transport picture: The five new superfreighters put into service by the Pittsburgh Steamship Co. (U. S. Steel) are exceeding the fast schedules they started last year (now 5½ days for the round trip from Duluth to Conneaut, Ohio, and return); and the highest water level in years is permitting heavier loading of all vessels.

The all-time loading record at the end of last year was held by the Canadian freighter Lemoyne—17,082 gross tons of iron ore. The Benjamin F. Fairless, one of the new superfreighters, broke this record twice in successive trips recently, only to lose it to a sister ship, the Leon Fraser, which on June 10 topped them all by loading 17,455

gross tons of ore at Two Harbors, Minn.

The Lakes have reached such depth that the Lake Carriers Assn. has authorized two general load increases in a month. One inch in depth is equal to about 100 tons of ore in the average 10,000-ton carrier. In setting maximum depth of load on the Detroit River at 21 ft., 6 in., and on the St. Mary's River at 21 ft., the association added two three-inch "bonuses" to the maximum depths prevailing at the beginning of the season.

HELICOPTER SPEEDUP

A long-rumored start to mass production of helicopters for the Army had its formal prelude last week end when United Aircraft Corp. announced that Nash-Kelvinator Corp. would begin to tool at once to build from designs of United's Sikorsky Aircraft Division.

Quantities were not revealed, nor was the plant's location. But the announcement, significantly enough, came a bare fortnight after Col. H. F. Gregory of the Army Air Forces made 24 flights without incident, using a 78x40 ft. deck

of a Liberty tanker at sea for takeoffs and landings (BW-Jan. 5'43, p17).

Nash-Kelvinator officials said the helicopter they will build is more advanced than models that recently underwent severe Wright Field tests (BW-Apr. 24'43, p22).

Award of this job to the Detroit company tightens the tie between it and United Aircraft. The other major Nash-Kelvinator contracts today stem from United licenses for manufacture of 2,000 hp. Pratt & Whitney aircraft engines and Hamilton Standard variable pitch propellers.

Indications are that a former top Ford official will direct the helicopter program. Late in May, Nash-Kelvinator appointed as a vice-president A. M. Wibel, formerly vice-president in charge of purchasing at Ford, a post he resigned a month earlier. At the time of the appointment of Wibel, highly regarded in automotive circles, his new company said he would be engaged in "a large contract, details of which are not yet available."

More Farm Labor

Workers go back to land in such numbers that there is an oversupply in a few areas; redistribution considered.

The back-to-the-farm movement is getting results. Since the first of the year, about 100,000 men have returned to draft-deferred farm jobs, according to War Manpower Commission estimates. The biggest transfers have been from West Coast plane factories, nonferrous mining, and lumbering. Many of these are city lads who had never worked on farms but prefer overalls to a uniform.

• **What Is Big Pay?**—Other men and many women have left industry to go back into agriculture because they are dissatisfied with city housing, transportation, the high cost of living. They also have gained a new appreciation of what "real wages" mean.

Contrary to the popular notion, an oversupply of labor already exists in some farm areas, a fact which is causing WMC to question blanket deferments. This may stimulate further relocation of labor by the Farm Security Administration. The return of 100,000 males of draft age is admittedly only a fraction of the estimated 11,000,000 persons employed on farms, but it is the kind of strength the armed forces would be glad to grab.

• **Women in Men's Work**—The male population on farms in May was up 200,000 over May, 1942, according to the Bureau of the Census, but the number of female farm workers jumped 400,000 during that year. The Bureau of the Census doubts that this reflects any

great increase of city women taking jobs on the land; rather it means that farm women and girls are doing the work their boys did before they went into uniform or took jobs in war factories.

Rural economists claim that the problem for 1943 is not to keep as many men on the farm as possible, but to increase their efficiency in production and, for seasonal crops, concentrate their labor where it is temporarily most needed. To do this, men would be removed from poor land and given jobs on successful farms.

• **Big Manpower Pool**—If the least productive workers are drained off by industry or the military, perhaps 1,500,000 or 15% of present farm workers could be spared. This has not been the case to date. In the Rocky Mountain and Pacific states, for instance, industry took 22 men per 100 while it took only 15 per 100 in the South. One reason for this was the discrimination in factories against Negroes, but the over-all effect has been to leave thousands of ineffective workers on poor farms while taking skilled workers from good farms. The operator of a good farm has often been to blame for losing his best men because he would not raise wages.

Farmers' gross incomes since 1940 have gone up twice as fast as the wages paid to hired workers. If 1929 is taken as a base, because it was a year when a man presumably could choose whether he wanted to work in a factory or on a farm, then the \$104 a month paid factory workers should have equaled the \$41 a month (plus board and housing) given a farm employee. In 1940 factory workers got \$104 again, but farm help got only \$28. Last April farm wages were \$57 and factory earnings \$170.

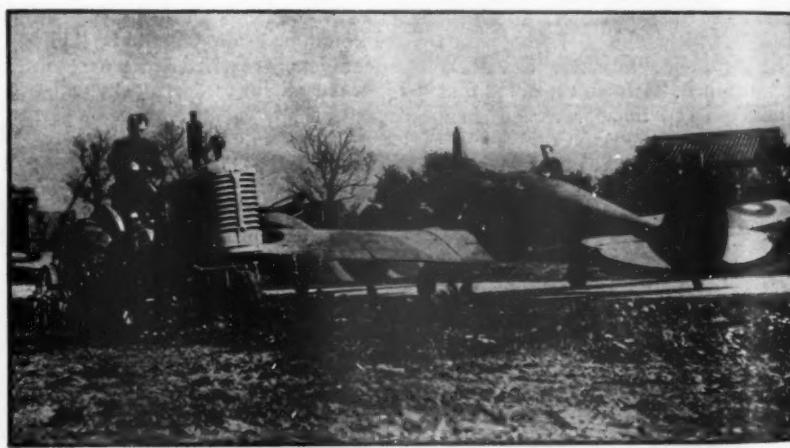
• **Cost Ratios Change**—Farm operators complained bitterly about paying such

high wages to men who often were skilled in their work, but no one heard any farmers pointing out that the total farm wage bill, which had been 11% of cash receipts in 1929, was only 8% in 1940 and 7% in 1942.

The normal movement of people from farms to cities has been dramatized unduly by the war, just as the current movement back to the farm is unduly played. Boys going away to earn \$50 a week in industry caused the homefolk to talk, and so did the departure of those going into uniform—both boys and girls. Between 1940 and mid-1942, some 4,000,000 persons are believed to have left the farm, but it is argued that the total farm labor supply didn't change that much because the younger and older folks did more work. This slack, however, was taken up almost wholly in the year-around group of workers and did not relieve the shortage in the seasonal group.

• **Big Seasonal Pinch**—Experts agree that labor shortages will probably be acute this summer. In areas and crops that depend on seasonal labor, July will find the crisis at its worst, since this is the biggest harvest month.

Whether or not the United States gets the big food crop that is needed this autumn depends, of course, on weather more than on labor supply, but the interests of industry that needs labor and of the Army and Navy which want more recruits may be served by WMC's study of available workers who are now not being used most effectively. Agriculture cannot expect to hold onto its labor supply unless it proves its efficiency. Whether higher wages are desirable in view of the threat of inflation is uncertain, but Washington feels more surely would result in greater harvest per man.



FOOD FOR FLIERS

Because England is so heavily dependent on imports for food, Victory gardens are springing up in many odd places. On airdromes dotting the

small island, for example, spare acreage supplies R.A.F. crews with fresh vegetables. Ground crews cultivate the soil with motorized equipment while airmen carry on their growing offensive against Axis Europe.

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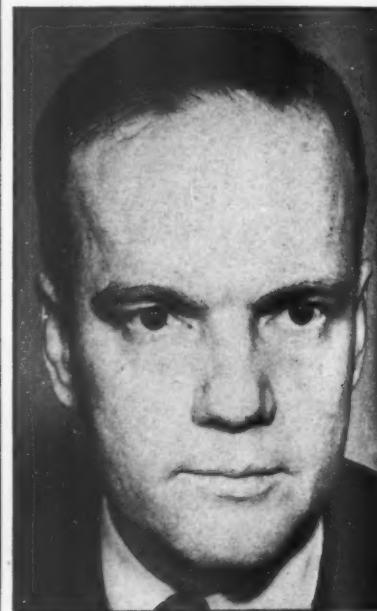
Fight over Silt

Philadelphia renews suit over coal dust washed into the Schuylkill River at anthracite mines of 24 companies.

Ever since the washing of coal proved more economical than hand picking, Pennsylvania anthracite firms have been dumping mine waste into the Schuylkill River over the protests of various communities along its 150-mile course. The latest restraining effort will come to a showdown in the State Supreme Court on June 30, with the resurrection of a suit dating back to 1896 in which Philadelphia and nine other cities will accuse 24 mining companies of endangering water supplies and increasing flood threats.

• **Reclamation Plan**—About two years ago, the U. S. Army engineers thought that, due to increased demand for pulverized coal, it might be profitable to reclaim it from the culm accumulation (BW—Sep. 13 '41, p70), but the idea was scrapped until after the war. Another postwar plan was announced last week by the Philadelphia Dept. of Public Works under which the silt might be processed into briquettes and made more combustible by adding fuel oil.

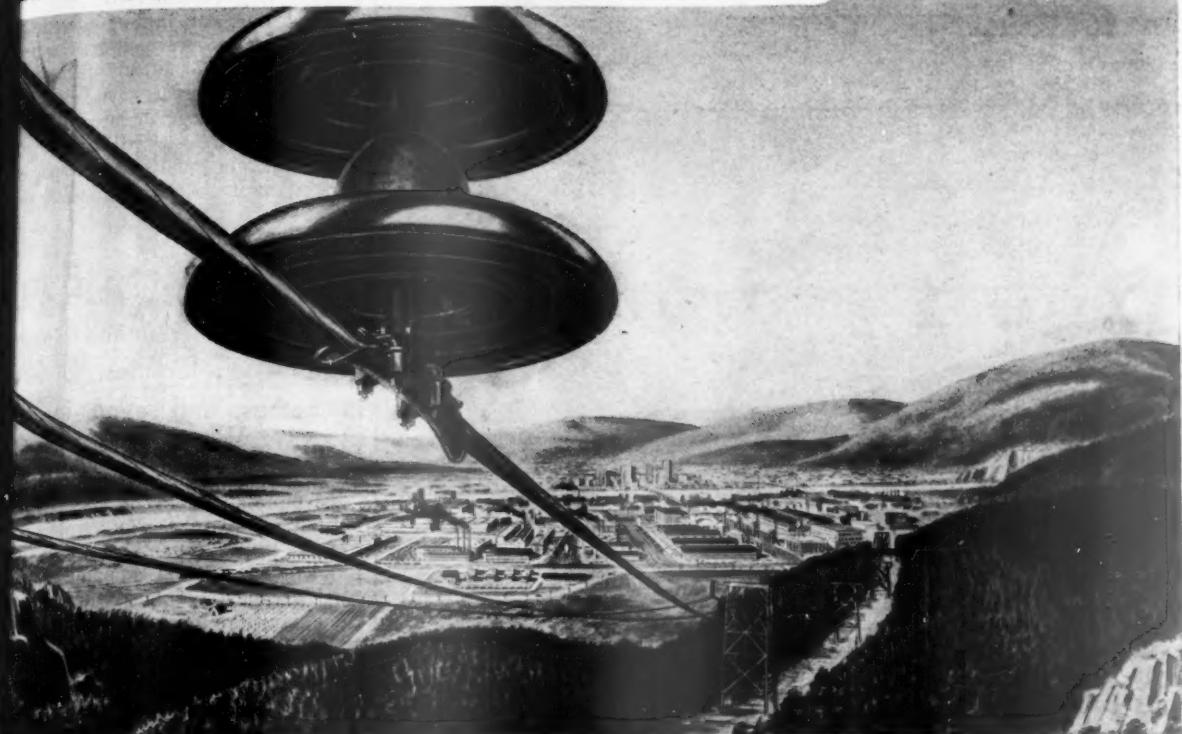
If the coal companies are not re-



JOB SHIFT

Relinquishing his dual WPB post-director of the program bureau and vice-chairman of the requirements committee—John F. Fennelly is now executive director of the Committee for Economic Development.

Another "Line" the Axis Cannot Hold ...



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There are hundreds of thousands of men and women behind the electric power industry who, by their fine per-

formance during the peace-time expansion of the electrical industry in America, helped dig the grave of the Master Planners of World Conquest. We out-produce them all.

Yes, we have built up in this country more kilowatt hour output than all axis held countries combined. But just to make the power was not enough. It had to be delivered to the war-gearied factories running full tilt round-the-clock; to the homes, stores, offices. It had to be ready and waiting, on time and in abundance wherever and whenever needed.

And it has been! No factory wheel in America, regardless of where located, has failed to run for lack of electric power. As every new plant mushroomed up, electric power was on the job well in

advance of need. And in the homes of all of us it is one necessity that has not been rationed.

And let us record in passing that, in these days of rapidly spiraling prices of many necessities, the price paid for electric power has actually been a declining one. Consumers, both war plants (therefore Uncle Sam) and the workers' homes are benefiting thereby.

Yes, our Power Makers planned well. And their stewardship over the electric power supply of a nation of people who have come to take this miracle as commonplace, has become more firmly secured by performance in an hour of emergency. This is the fabric from which Victory will be woven; it is the fabric that spells America!

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Liability, etc., the *policy back of the policy* is equally diligent in keeping the interests of policyholders foremost. Careful selection of risks has returned to policyholders a total of \$82,000,000.00 in dividend savings to date. The current dividend saving on Workmen's Compensation is 20%. Policies are non-assessable. Licensed in every state . . . full-time representatives and offices coast to coast.

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strained from washing coal into the river, it is estimated that heavier mining operations will mean a record deposit of 2,000,000 tons of silt this year, raising the total in the river to a probable 28,000,000 tons.

• **It Just Keeps Rollin'?**—However, a decision against the mining firms would not immediately solve all existing problems since the silt already in the water will continue to wash downstream. One engineer estimates that after dumping stops it will require 30 years of continued dredging and other cleanup operations to free the Schuylkill of mineral waste.

Little Gas to Burn

Industrial demand is taxing transmission facilities; furnaces in homes, and even in war plants, may suffer next winter.

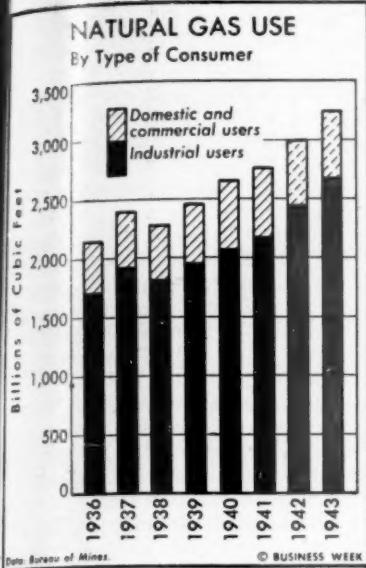
As more and more oil goes overseas, natural gas plays a greater role in industrial production. That is why the problem of meeting demands for natural gas next fall and winter constitutes about the toughest one now facing WPB's Office of War Utilities.

• **Curtailment in Prospect**—It is far worse than the power problem, and in some respects, it is more pressing than the oil and gasoline shortage. The prospect is for a serious curtailment of gas for house-heating and even for war industries, some of which may be shut down during periods of intense cold weather. Although there is about 9 trillion cubic feet of natural gas underground—enough to last about 35 years at the current rate of withdrawal—they will be inadequate supplies in some areas next winter because facilities for gas transmission are limited and because wartime industrial demand for gas has increased tremendously.

Here is what we are up against: In 1936, industrial consumption of natural gas amounted to 1,706,000,000,000 cu. ft. This year, according to best federal estimates, it will total 2,650,000,000,000 cu. ft.—an increase of almost one trillion, or one thousand billion, cubic feet of natural gas for industrial consumers.

• **Other Consumption Steady**—Domestic and commercial consumption in the intervening seven years have remained stable by comparison. In 1936, domestic and commercial users consumed 455,000,000,000 cu. ft.; this year they will use about 600,000,000,000 cu. ft. The total increase in consumption—industrial, domestic, commercial—amounts to about 1,089,000,000,000 cu. ft.

To handle this increase, only minor additions to natural gas facilities have been installed. Some lines have been



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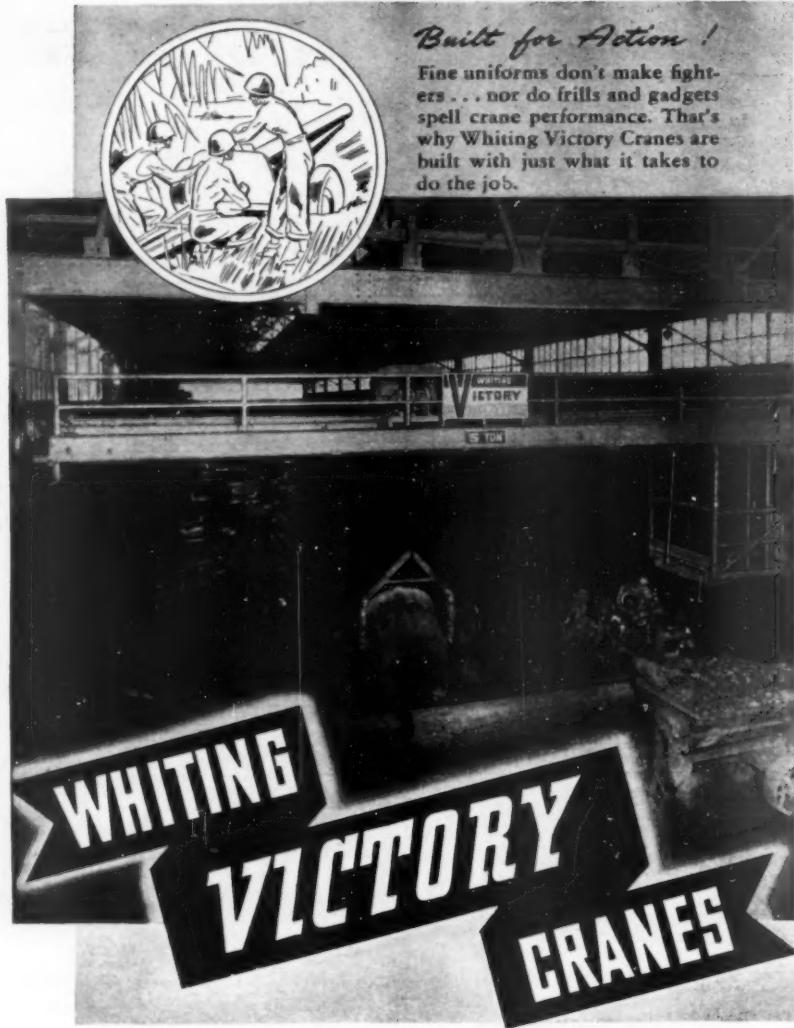
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2,800 wells—and this is an optimistic estimate—it would mean an additional 420,000,000 cu. ft. daily.

• **Short of Peak**—This sounds like a lot of gas, but it will not augment present supplies enough to take care of demands. On a peak day this winter, with cold weather and maximum war production, the Appalachian region could use 2,250,000,000 cu. ft. With diversion from Panhandle, maximum production from new wells, and present production in the area, the total daily available supply will be about 1,600,000,000 cu. ft., or 650,000,000 cu ft. short of peak need.

To make up this deficit, in part, OWU officials hope to have enough gas in storage by winter to take about 450,000,000 cu. ft. from reserves on days when the need is acute.

• **Conservation Campaign**—OWU will launch an intensive national campaign this fall to urge householders to use as little gas as possible. Any reduction in domestic use must be brought about voluntarily however.

In anticipation of tough times in the winter of 1944-45, WPB is making plans to construct a new pipeline from the Gulf Coast to some point in Tennessee, where it will hook into the various Appalachian transportation systems. If it is completed by the fall of 1944, the Appalachian area will have another couple of hundred million cubic feet a day.

• **Midcontinent Supply**—The other headache region for gas supplies has been the midcontinent area between Wichita, Kan., and Kansas City and Springfield, Mo. But the new 26-in. line, which will run 240 miles from Texas to Blackwell, is expected to take care of this area. The line probably will be completed late this fall. It will deliver about 140,000,000 cu. ft. daily.

OWU can tell the industry where and when it shall deliver its gas. It can force diversion from one line to another without regard to contracts and commitments. First major diversion order issued calls upon Panhandle to give about 20,000,000 cu. ft. a day to the Ohio Fuel Gas Co., a subsidiary of Columbia Gas & Electric. This gas is being stored for house-heating purposes. OWU has asked Panhandle to give 50,000,000 cu. ft. a day next fall to the East Ohio Gas Co. This 50,000,000 cu. ft. will be taken from the 88,000,000 cu. ft. of additional capacity resulting from looping of the Panhandle line.

• **For Free Interchange**—Other diversions undoubtedly will be forthcoming. OWU believes that only by a free interchange of gas between systems can the inadequate supply of gas be equitably distributed.

In energy, 1,000 cu. ft. of gas is equal to about seven gallons of oil, roughly 1,000,000 B.t.u. But gas is somewhat cheaper and generally is considered more

Invert to Woman's Work?

Hard hit by manpower shortage, many war plants are *converting* man-sized jobs to make them suitable for women. One practical, quickly available means of doing this is to make full use of the electrical tools that put ready-made speed, skill, and accuracy into the hands of inexperienced personnel. Here are a few typical examples of G-E equipment that has made war jobs easier for women. They may suggest how G-E Application Engineers can help you. General Electric Company, Schenectady, N. Y.



ING HEAT—100 to 115 deg—the wire-drawing department in Eastern plant required that husky men be rotated in short turns. Women workers were out of the question. Faced with a manpower crisis, the plant installed G-E industrial air conditioning. Room temperatures came down to a uniform 65 deg. Women went to work in a will.



WEIGHT LIFTING frequently crops up as the chief obstacle to converting war jobs to "woman's work." In many plants G-E powered electric hoists are supplying the needed muscle. Here women are handling, with the minimum of physical effort, jobs that had always been considered strictly "man's work."



PRECISION INSPECTION in many plants is being done by new operators with relatively brief training—using Pratt & Whitney Electro-limit gages. These G-E equipped gages expand a .0001-in. variation to $1\frac{1}{2}$ in. on the scale. Making simultaneous checks on length, diameter, bore, etc., they do the job in a fraction of the former time.



STATIC PROCESS CONTROL engineers at G.E. forestalled the necessity of obtaining experienced men for process-control jobs in a new oil-gasoline refinery. Where years of experience would normally be required, new operators, using control, can now be trained in a matter of weeks.



AUTOMATIC POSITIONING on machine tools in a shell plant helped foremen to train workers in one-tenth the time formerly thought necessary. Once dial settings are made, cutting tools move into position, G-E precision limit switches halting them at the exact point where the cut is to start or stop.



WELDING SAFETY for women workers has been greatly increased by new protective clothing—jackets, aprons, gloves, cape-sleeves, trousers, special head covering—recently introduced by G.E. Comfortable, surprisingly smart in appearance, this apparel is an important factor in providing adequate protection and maintaining feminine morale.

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It's Hard on Par

Except in areas how Army camps, people just ar visiting the scenic wonders, soldiers' spending is light.

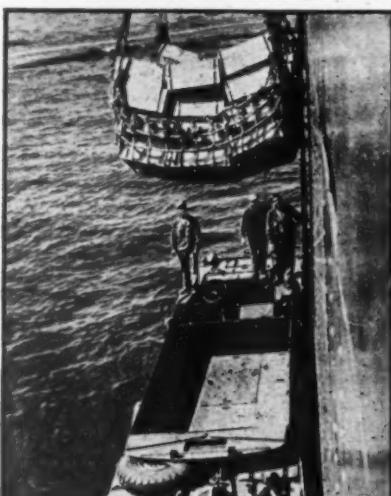
June 1 found the nation's 26 national parks open as usual—but visitors will be even fewer this year than when attendance dropped 52% from 1941's 8,388,909. Judging by present trends, many of those who do come year will be in uniform: Of the 10,626 visitors to all national parks, streams and recreation areas in 1942, less than 10% were service men. So far this year they account for more than 25%.

• **One-Sixth of Trade**—Except in near Army camps, increased soldier traffic is small comfort to the concessionaires who operate hotels, stores, cabanas, stables, and the like. They will consider themselves lucky this season if they in \$5,000,000—compared with a normal business of about \$30,000,000. This year's estimated take was \$8,000,000.

The labor shortage alone will discourage most of the big national park from operating this year. Some parks like Crater Lake, will have no accommodations for tourists. Others will offer "minimum service"—which means lodges, with simple meals in lodges. Sightseeing buses are banned by the Office of Defense Transportation. In some places, regular bus service from railheads has been discontinued, as from Las Vegas, Utah, to the north rim of the Grand Canyon.

• **Problem in Policy**—Recently the Association of American Railroads announced that the carriers would cooperate with ODT's travel conservation plan (not a ban on vacations) by "placing before the public the facts about railroad travel." Train traffic, now two to three times greater than a year ago, is expected to reach peak in July.) But railroads shy away from any specific "don't travel" campaign. Although they agree such a drive is advisable in congested areas, they don't want to deprive passengers in the rest of the country of service which roads are still able to provide.

Under these circumstances, many resort operator would like to unload his property on the government-sponsor National Park Concessions, Inc. The corporation now operates six hotels and one lunchroom pavilion owned by the government. Three of the hotels are at Isle Royale National Park, and one of them is operating this year. The others are at Mammoth Cave National Park, Mt. Olympic National Park, and (not operating) Blue Ridge National Parkway. The lunchroom pavilion is at Vanderbilt Mansion National Historic Site at Hyde Park, N. Y. In ad-



ARMY'S DUCK

To its long list of odd vehicles, the Army recently added a 2½-ton truck (above) that performs on water as well as land. It is particularly suited to landing supplies where docks are lacking. Loaded directly by cargo net (left), the truck runs ashore on its propeller; then its six-wheel drive is started for climbing the beach (below). For troop movements, the new vehicle has a capacity of about 20 fully equipped soldiers. Resembling an overgrown, amphibious jeep, it was immediately christened "the duck" by soldiers.



BUSES TO AIRCRAFT

Greyhound Corp. is set up for it and wants to get into the operation of helicopters of large carrying capacity after the war. Such is the gist of an application just filed with the Civil Aeronautics Board by the big bus company.

Here's the way the company views it. Existing personnel, terminal facilities, and maintenance equipment could readily be adapted to the use of the helicopter. Bus lots and garage roofs could be fitted up as landing fields.

Greyhound contemplates passenger, mail, and express handling, and is prepared to operate feeders tying in with existing airlines.

efficient than oil. Panhandle sells its gas to the city of Detroit at 34¢ per 1,000 cu. ft.; oil in Detroit costs 54¢ a gallon, or 36½¢ for the seven gallons required to produce the B.t.u. equivalent of 34¢ worth of gas.

• **A Major Job**—The OWI and the Petroleum Administration for War—PAW is concerned primarily with production, is behind the drilling of new wells—will have their hands full getting enough gas to the right places at the right times. Their officials admit it, but they are tackling the problem vigorously. They don't want war industries to suffer for lack of vital gas; neither do they want people to freeze in homes that rely on gas for heat.



WHEN THE SWORD OF WAR IS SHEATHED . . .

Out of war's insatiable demands . . . out of experience and ability that has made rubber history in epoch-making inventions and improvements . . . out of one of the world's largest plants devoted exclusively to the manufacture of mechanical rubber goods, will come belting, hose and similar products far surpassing the world's finest that have come so far. And at that time, as now and in the long past, BWH will continue and develop its cooperative program of selling through the industrial distributor. (Manufacturers with rubber problems are invited to write this 60 year old leader.)

BOSTON WOVEN HOSE
BWH
BUILT WITH HONOR

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RUBBER GOODS**

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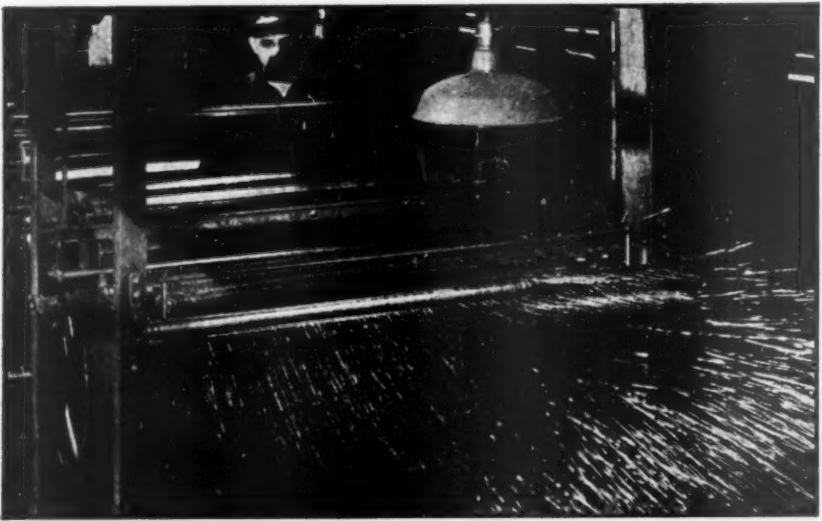
Insure Victory — Buy More War Bonds & Stamps



NYLON FOR HOMES

Window screens, made of nylon mesh (above), are undergoing stiff practical tests this summer. But because virtually all nylon is earmarked for war, they won't be available any sooner

than nylon stockings. A prewar du Pont product, nylon is woven into fine mesh from monofilaments (below) similar to synthetic bristles. Pigmented in production, the screening requires no paint and is corrosion-proof, according to du Pont.



tion, the corporation is operating this year for the private owners the hotel at Lassen Volcanic National Park.

• **Varied Experiences**—Some national park hotels have kept up their volume by catering to soldier guests or war workers: In Yosemite, which suffered a 79% attendance drop last year, the Yosemite Park & Curry Co. has arranged for groups of Lockheed and Consolidated aircraft employees to come out for two-week vacations.

Hot Springs National Park, whose 1942 attendance drop was only 15%, this February enjoyed a 17% increase over the same month last year—possibly because visitors can get extra gasoline rations on the strength of a doctor's statement that they need the curative

waters. Parks and shrines near centers of population or Army camps are booming: The Statue of Liberty, for example, had 113% more visitors this February than last.

Don't count on many week-end jaunts this year. According to the Public Roads Administration, traffic on rural roads is off 48% (from 1941) in the East, 37% in the rest of the country. Tired New Yorkers who yearn for a cool week end in Maine, or Chicagoans who pine for Wisconsin's north woods are denied Pullman comfort. By ODT order, only coaches can be used for week-end special trains, and they must leave after Saturday noon and return by Sunday midnight so as to be ready for Monday morning commuters.

Link to Moscow

Supply depot established at Auburn, Wash., as means of speeding goods going to Russia via Pacific Northwest.

The Pacific Northwest has long been a primary base of lend-lease shipments to Soviet Russia. To facilitate classification and storage of goods moving from Portland and Seattle, the government now has grabbed a 500-acre plot at Auburn, Wash., for an \$11,000,000 lend-lease storage project.

• **Site Was Condemned**—The government will turn over to lend-lease 2,000,000 sq. ft. of indoor space and a like amount outdoors, and construct an 800-car holding yard and a 400-car classification yard. The government took possession of the land under condemnation proceedings.

On the same day, Lend-Lease Administrator Edward R. Stettinius, Jr., issued a summary of movements of U. S. materials—now dominantly tank planes, and guns—to the Soviet Union. Raw materials ran second: 725,000 tons of steel and products; 145,000 tons of copper, brass, nickel, molybdenum, and other materials; 60,000 tons of aluminum; and 30,000 tons of zinc.

• **Large Quantity of Food**—Other materials supplied include 670,726 miles of telephone wire, 181,875 field telephones, and 1,077,000 tons of food for the Red Army. When the Soviets announced recently the reopening of 4,000 miles of rail lines regained in the winter offensive, they were in fact reporting the end use of 85,000 tons of U. S. rails—or about 1,000 miles of double track shipped under lend-lease.

In an earlier report, by noting that one-third of U. S. goods going to Russia traveled in Soviet ships, Stettinius indirectly emphasized the role northwestern ports are playing—since U. S. ships cannot venture into Japanese waters en route to Russia.

• **Delays Encountered**—Citizens of Oregon and Washington have not been unaware of the booming movement of goods through their harbors. Gated grown sidings throughout the area have been sagging with loaded boxcars and flatcars, sometimes standing under guard for a month at a time.

Creation of a central sorting and storing depot at Auburn follows approval of the site by Gen. A. I. Belyayev of the Soviet Purchasing Commission, Arthur Van Buskirk, lend-lease official, and Maj. Gen. Charles Wesson, senior assistant administrator in charge of Russian lend-lease. Completion of the depot not only will rationalize movement of lend-lease goods in the U. S., but also will speed dispatch of goods from the country.

Ice Cream Doubts

Shortage of corn sugar
and scheme for conversion to
frozen foods worry industry,
but ban on output is unlikely.

Rumors of a complete ban on ice cream production shouldn't be taken too seriously. There isn't any present prospect of a ban; in fact, there isn't even much likelihood of the industry's being cut below its present allowance of 65% of the total milk solids used in 1942 (on monthly basis).

The Base Is Favorable—Actually, the present limitation doesn't involve too serious a deprivation either for the industry or for consumers—except in isolated cases. That's because 1942 was a banner year for ice cream output. The International Assn. of Ice Cream Manufacturers estimates that 466,337,000 gal. were frozen, compared with 390,175,000 gal. in 1941.

Moreover, by increasing the production of sherbets and other frozen confections which require smaller amounts of milk solids, the industry can put a good deal of elasticity in the 65% base. And ice cream supplied to Army posts and other military establishments (estimated as high as 10% of total U. S. production) is unrestricted and does not count on manufacturers' quotas.

Argument over Supply—Right now, many ice cream producers are arguing heatedly for a temporary increase in their milk solids quota. This is the season of flush milk supply, and it makes manufacturers boiling mad to see milk fattening hogs and flooding sewers when the hot weather is coming on and the public is screaming for ice cream. The War Food Administration claims that the production peak is spotty this year, that present milk wastage is only temporary, and that, in view of these conditions, it wouldn't be worthwhile to open up the order.

Actually, from a longer range viewpoint, the ice cream industry is now a lot more worried about sugar than it is about milk. Last year, the industry was allotted 75,000 tons of beet and cane sugar (70% of 1941 consumption) but padded it out with 45,000 tons of corn syrup. In 1941, ice cream manufacturers used only around 3,000 tons of corn sweetener.

Little Relief Seen—With farmers now figuring that corn yields a higher profit converted into pork than sold to the syrup plants (BW-Jun.12'43,p22), the ice cream industry sees itself facing a drastic shortage of sugar within the next few weeks.

Recent talk about the possibilities of converting some ice cream capacity to the production of quick frozen fruits



Help the carriers deliver the goods

Long-time symbol of delivery that must not fail, the "fast mail" now shares honors with many another carrier. Not troop and freight trains only, but pipe lines, highway transport, shipping, aviation—all have been mobilized by industry and government. With irresistible momentum they are themselves going through, and pushing supplies through, on schedules classed as impossible in prewar days.

Aiding the carriers is a job we all can share. By seeing that they are spared unnecessary burdens. By providing the critical tools they require for construction and

maintenance. Here at Broderick & Bascom we furnish wire rope and wire rope slings to every branch of transportation. Traditional B & B stamina enables them to work material-handling equipment at capacity . . . to postpone replacements . . . to keep on delivering the goods.

Whether Preformed Yellow Strand and other B & B products shall be dispatched to the battle front, production front or transportation front is determined by the all-over Victory plan. Full co-operation with this plan, by wire rope maker and user, helps mightily to carry the war load.

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Branches: New York, Chicago, Houston, Portland, Seattle. Factories: St. Louis, Seattle, Peoria

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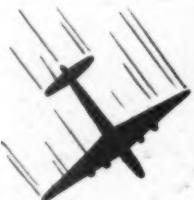


B & B's Army-Navy "E" Flag, Three Times Won, Means that

WE SERVE THE GOVERNMENT AS WE SERVE INDUSTRY: WITH DETERMINATION THAT OUR ENTIRE ENERGIES AND RESOURCES SHALL HELP TO WIN THE WAR

PARTS INVENTORY SLASHED 91% with Increased Output!

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LAMSON CONVEYORS

In a humming aircraft engine plant, a Lamson engineer set out with company officials to speed production. Lamson Conveyors in the crank case department reduced the distance parts travel from over a mile to 1600 feet. With the efficiency achieved by expert coordination, the parts inventory was cut to 1/12 its former size. The savings on interest alone paid for the entire installation in **ONE WEEK!**

Incredible? Yes—almost. Yet this is but one of the many such reports of amazing economies in time and money and corresponding increases in production achieved by Lamson . . . Lamson Conveyors eliminate the confusion and waste of outmoded materials moving methods and multiply the output of available manpower.

No matter what you make now—or expect to make after the war—it will pay you to have a Lamson materials-handling engineer make a survey of your plant and suggest ways to modernize and streamline production.

**Smashing bottle-necks is an old story
to Lamson engineers**

LAMSON Corporation

Dept. BW SYRACUSE, N. Y.

Makers of CONVEYORS and PNEUMATIC DISPATCH TUBES

and vegetables is still mostly that and nothing more. The idea originated last fall with the Bureau of Agricultural Economics in the Dept. of Agriculture. BAE's thinking on the subject was that if steel and tin ever become too tight to continue the output of canned foodstuffs at present levels, expansion of frozen food production is the natural answer. The ice cream industry's freezing and distribution facilities make it natural to handle the job.

• **Practicability Doubted**—The BAE and ice cream manufacturers have cooperated in preliminary discussions. Ice cream men say they're willing to see what they can do if it becomes necessary, but they point to many hitches.

With a few exceptions, ice cream plants are located in metropolitan areas a good distance from the fields where fruits and vegetables are grown, which poses a transportation problem. The plants rarely have facilities for preparing fruits and vegetables for freezing. Manufacturers agree that they could handle frozen fruit and vegetable juices but are dubious about the pulpy stuff.

• **Canners Don't Like It**—BAE's idea is that the canners should step into the picture and prepare the foods, then ship them to ice cream plants for freezing and storage. Canners say they have enough labor and equipment troubles of their own without taking on anyone else's. Also, it may be assumed that they aren't overanxious to give the ice cream industry a competitive leg up.

Most ice cream makers have hardening rooms which could be used as is for quick freezing or are readily adaptable with the addition of air blast equipment. Distribution, likewise, poses only minor problems. (Sales angle: The ice cream industry might be the entering wedge in putting quick frozen foods into drug stores.)

• **Storage Problem**—Ice cream plants do not have adequate storage space. Output turns over in a few days; quick frozen foods are held for months. Suggested solution to this problem is conversion of idle icehouses.

Canners already have their steel allotment for this year, and they say there's enough tin in sight for three to five years' output of canned foodstuff at present rates. (How far the tin supply can be stretched depends mostly on the extent of conversion to the electrolytic instead of the hot dip process and on how much tin continues to trickle in from Malaya via Russia to supplement supplies from Bolivia.)

• **A Single Recruit**—BAE's hope was that several large ice cream plants would pioneer in frozen food production this summer so that the industry could follow in their footsteps in 1944 or 1945 if necessary. So far, there haven't been any takers, though one medium-sized ice cream manufacturer is reported considering some conversion.

Guarding Power

Additional water storage sought for Bonneville and Grand Coulee to sustain power; Idaho and Montana object.

Last March, the Bonneville Advisory Board, comprising representatives of the War Dept., Federal Power Commission, Dept. of Interior, and Dept. of Agriculture, decided that a serious power shortage might develop in Pacific Northwest war plants and shipyards in the fall of 1944 unless something was done to increase power output at Bonneville and Grand Coulee dams.

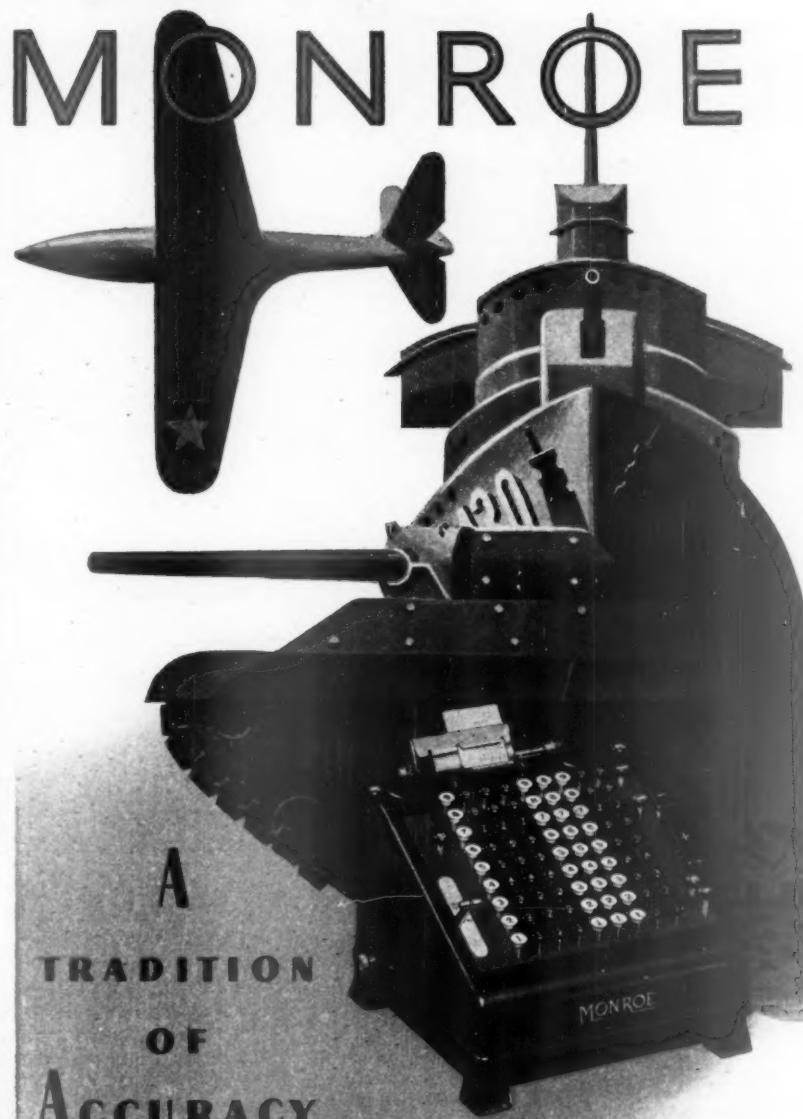
Additional Storage Sought—The board suggested that Army engineers survey possibilities of providing additional water storage on the Columbia River. Construction, it was said, could be accomplished with a minimum of critical war materials and would result in a substantial increase in electric output at the dams during the low-water season. The Army engineers made their surveys and recommended that the level of Flathead Lake in western Montana (part of the Columbia River drainage system) be raised 17 ft. in order to increase its total storage capacity by 3,000,000 acre-ft.

Last week it seemed that the plan had struck a snag. The citizens of Montana and Idaho are fighting mad about it.

Farm Destruction Seen—At a meeting in Helena, Mont., Gov. Sam C. Ford



With electric power the all-important driving force in most war plants, constant guard against sabotage is maintained over the nation's power dams. At Grand Coulee, Coast Guard units patrol not only the dam but also the reservoir and feed basins to insure keeping outsiders outside.



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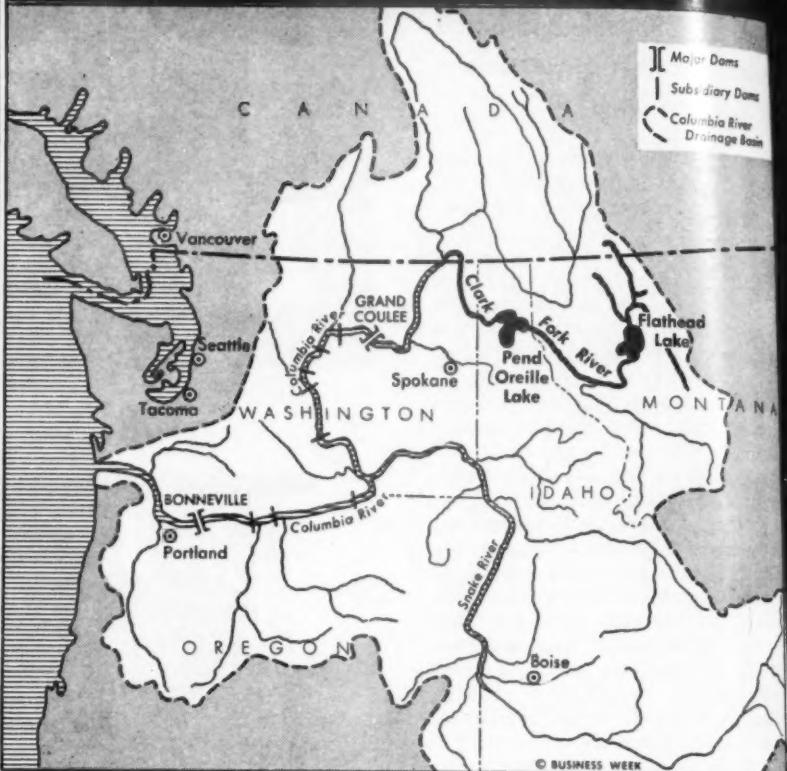
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SCENE OF A NEW WATER FIGHT

Idaho and Montana oppose raising of Flathead Lake's level



told government representatives that raising the level of Flathead Lake would inundate 55,000 acres of Montana's richest agricultural land and wipe out several towns and large lumber mills.

Idaho joined Montana's protest, objecting to the "permanent destruction of existing properties and improvements by flooding." The Bureau of Reclamation will be called upon for a decision.

• **Floods in Summer**—The Bonneville Advisory Board is seeking an increased water supply for use during winter months. The Columbia River drainage system is unique among the United States' major water systems in that its floodwaters come during summer months. The reason is that the principal source of water in this drainage basin is the Columbia ice field of western Canada, the largest body of perpetual ice and snow in the Western Hemisphere outside the Arctic and Antarctic. The ice field covers more than 1,000 sq. mi. and in places is hundreds of feet thick; it is replenished with snow every winter and drained every summer.

Incidentally, the reservoir behind Grand Coulee Dam holds enough water to supply New York City's requirements for ten years. Stretching eastward and northward to the Canadian border, the reservoir is now filled with 10,000,000 acre-ft. of water, and the Dept. of Interior is planning to develop several large summer colonies along its shores.

Municipal Wildcat

Los Angeles to drill for oil on city property despite the dry hole encountered by Shell on Gilmore Island.

Shell Oil Co. hit a dry hole in that much-publicized well it sank on Gilmore Island, Los Angeles (BW-Mar. 13'43, p92), and now the hole has been sealed up and the prospectors have moved out. But Shell's experience has not discouraged others.

• **City to Get One-Sixth**—The city itself has contracted for a well on its own lands near the Chatsworth reservoir in San Fernando Valley. Gas and oil seepage on the north shore of the reservoir in 1939 made the site unfit for water storage. The Ramsey Petroleum Co. of Oklahoma City will drill to at least 4,000 ft. and start other wells immediately if oil is discovered. Los Angeles will get one-sixth of all oil produced.

Shell's dry hole was drilled with unique equipment. The pitch-dark derrick was blanketed with rock wool to shut in noise and avert oil damage to neighboring property. The machinery was electrical to make operations silent. Drilling was done by electric light. Plans were to go down 9,000 ft. to pierce

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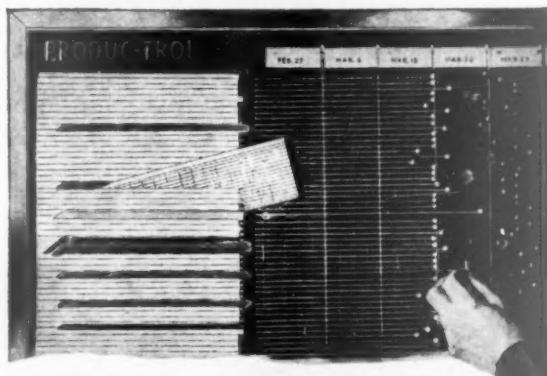
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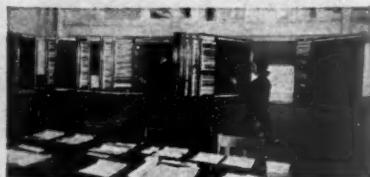
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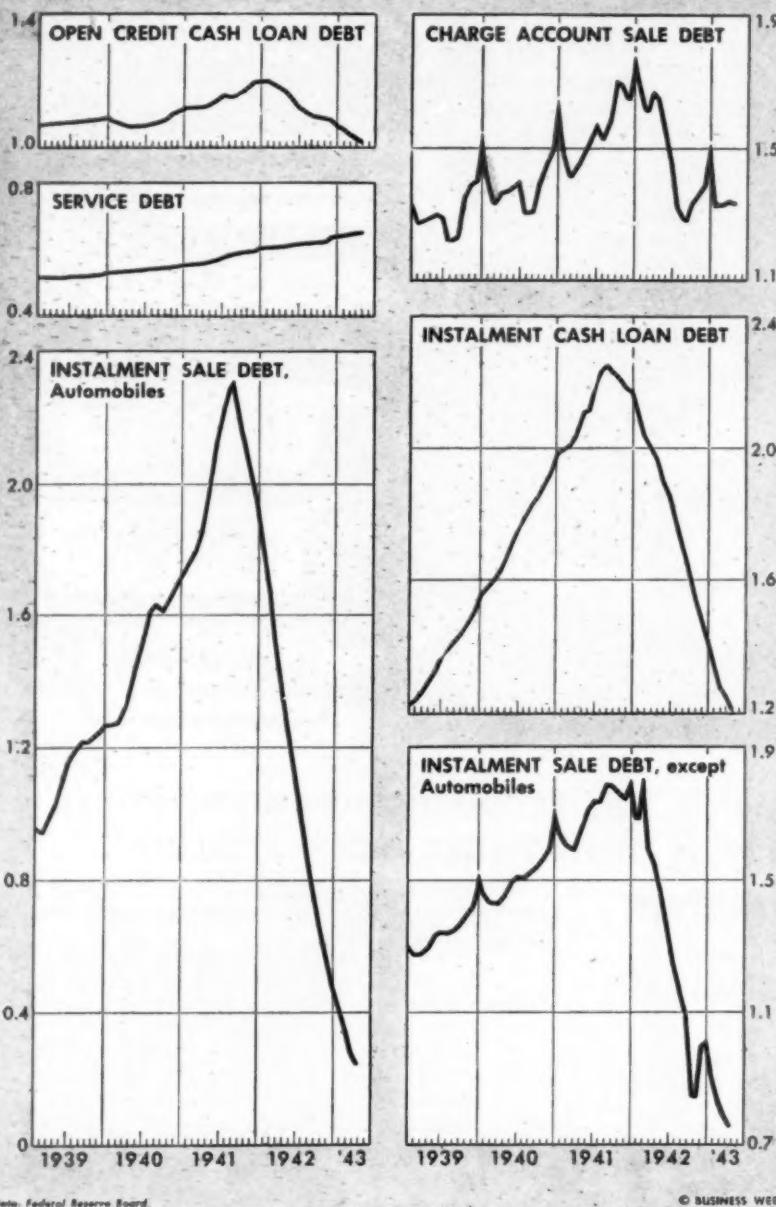
WASSELL ORGANIZATION
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In Canada: Seeley Systems Corp., Ltd., Toronto and Montreal

HOW CONSUMER DEBT HAS CHANGED

Figures in Billions of Dollars



Data: Federal Reserve Board.

© BUSINESS WEEK

By April, 1943, consumer short-term debt was 46% less than in September, 1941, when the Federal Reserve Board imposed Credit Regulation W, limiting loan repayment periods. This immediately hit instalment debt. Credit advanced by auto dealers has dropped most sharply, by 90%, because of the cessation of production. Other instalment sale debt has tobogganed only 58%, because output and inventories of furniture and appliances have remained somewhat more plentiful. Cash loans by banks, credit unions, and personal finance companies have

been less hit by shortages; Regulation W has cut the instalment-type total by 47%, but the open-credit variety by only 15%, since these 30-, 60-, 90-day renewable lump-sum loans mostly are repaid within the twelve-month limit anyway. Charge accounts, restricted in May, 1942, first fell off by 25%, then followed the trend of soft goods sales. Service credit is exempt from Regulation W and has risen 11%. Further sizable declines to the year-end can be expected only in the instalment cash loan and "other" instalment sale debt groups.

supposed oil-bearing zones; but at 7,911 ft., Shell engineers admitted the outlook was hopeless and shut down with the comment: "That's the oil business!" • **Hidden Dividends**—Shell officials figure their Gilmore Island venture paid dividends by showing property owners that oil drilling can be made unobtrusive. Opposition in Los Angeles was based on three nuisances associated with oil drilling in the past—noise, the danger of spouting gushers, and the forest of derricks that used to rise when oil was struck. Modern producing fields do not have derricks. When wells come in, the derricks go, and only ground-level casing heads remain, with inconspicuous pumps.

Now that the Los Angeles public has come around, the city government has been trying to evolve a general policy that will permit drilling without the special city ordinances which have thus far been necessary for each operation. City officials are preparing an ordinance which will cover all cases, protect the property owner and the oil industry, and have teeth. When the ordinance is passed, the city proposes to drill test wells in promising neighborhoods.

FSA Comes Back

Senate votes funds for Farm Security Administration after sharp fight; House earlier had denied appropriation.

Just when its political future looked blackest, the Farm Security Administration last week won Senate approval (66 to 12) for funds that promise to continue its existence. It is likely that the House will back down from its original stand of "no funds" for the fiscal year starting July 1.

• **Only \$6,000,000 Cut**—FSA asked the Senate for and got \$97,500,000 to be borrowed from the Reconstruction Finance Corp. for rehabilitation loans, \$30,000,000 for loans to tenant farmers, and \$29,607,573 for administrative expenses, supervision, and servicing. The last item represents a cut of about \$6,000,000 from FSA's asking figure.

The reason FSA came off so well was a new political wind blowing into Washington from groups favoring "all the food we can raise" as opposed to the old Agricultural Adjustment Agency program of "higher prices and controlled production."

• **Davis Launches a Probe**—Chester Davis, War Food Administrator, has, meanwhile, named Prof. John D. Black of Harvard; Clarence Poe, veteran editor of *Progressive Farmer*; and Paul Sanders, editor of *Southern Agriculturist*, to appraise FSA's management. Black is regarded by the agency as hav-

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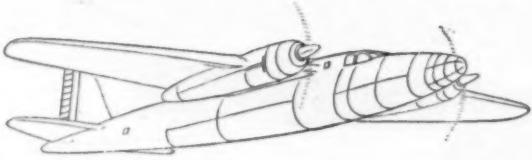
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HENS—PRO AND CON

It doesn't make any difference which came first, the chicken or the Victory garden, as far as the nation's city ordinances are concerned.

In Tacoma, Wash., a citizen must have written consent of his neighbors before he can go in for raising chickens. According to a recent bulletin of the Public Administration Clearing House, one city still requires 60 square feet of land for every towl, which makes chicken raising practically impossible.

Some local ordinances are designed to prevent unsanitary conditions, others to prevent neighbors' complaints. In Pasadena, Calif., householders are limited to a maximum of 12 hens and 50 chicks—but no roosters.

Missouri City officials, unable to induce neighbors to flip a coin to see whether both would raise chickens or both raise gardens, are looking up old regulations on the fowl and animal subject to solve the problem.

On the other hand, many communities this spring have relaxed regulations governing poultry and livestock within city limits.

ing been one of its most forceful advocates when he appeared at committee hearings in Congress last year, and Poe has been a militant friend. It is expected, however, that this trio will lean over backward to give Davis a fair and unbiased report.

Bulk of the work of FSA since 1937, when it took over the rural assistance program, has been in rehabilitating farmers and in financing tenants as owners. Credit has been supplied to about 1,000,000 families for livestock and needed equipment, and, as of Dec. 31, 1942, \$38,000,000 of \$712,000,000 lent had been repaid. FSA claims its borrowers have contributed even more than their share to increased production of milk, beans, beef, peanuts, chickens and eggs, pork, and sugar beets.

• Background for Fight—Opposition to the FSA has been bitter and varied. Sen. Harry F. Byrd, leader of the Senate economy group and an aristocratic Virginia farmer, tried valiantly last week to abolish it. Byrd's battle climaxed the campaign in which he has had the support of the American Farm Bureau Federation, the National Cotton Council, and the Illinois Agricultural Assn. which gets the ear of such lawmakers as Rep. E. M. Dirksen, active member of the House Appropriations Committee.

Big farmers, whose ability and equipment usually assured maximum food

production, could make better profits by higher prices. Small farmers, with less ability and machinery, stood greatest chance for gain by increasing their output. Other reasons why big farmers hated FSA was because it was taking away part of their labor supply by graduating sharecroppers to tenant farmers and then to farm owners.

Postwar Chest

Detroit's mayor wants a city income tax to amass a fund for specified public works as cushion when peace comes.

Detroit's mayor, Edward Jeffries, wants to start now raising a fund for postwar works to cushion the motor capital's economy. He suggests occupational and profits taxes and has scheduled public hearings late this month, but his chances of getting a favorable vote are openly questioned.

• \$10,000,000 A Year—Jeffries proposes that all wages and salaries earned in Detroit be taxed 1% at the source. He figures that would provide a postwar chest of approximately \$10,000,000 annually for capital improvements. He also recommends a 1% tax on net profits of all companies in Detroit.

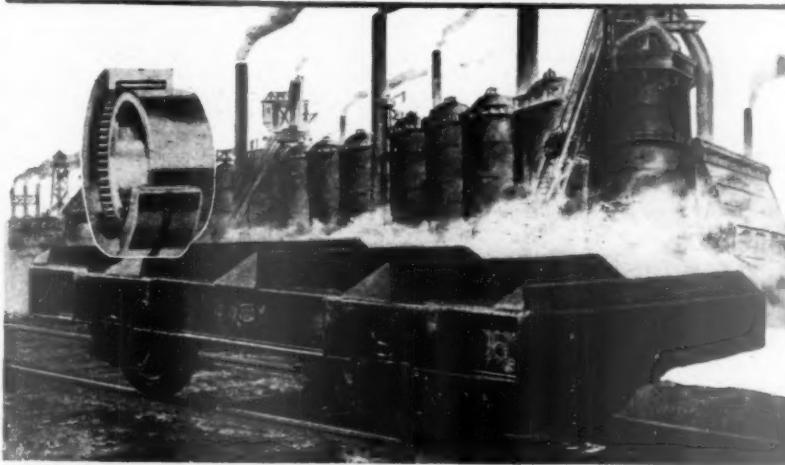
From the first \$10,000,000 collected, he would spend \$2,500,000 to acquire more airport facilities, mainly for freight; \$3,000,000 for acquisition and rehabilitation of obsolescent and blighted property, \$2,500,000 to match federal, state, and county funds for express highways; \$1,000,000 as a reserve fund for riverfront development; and \$1,000,000 to expand city-owned Wayne University.

• Present Program—At present, Detroit has a capital improvement program of \$30,000,000, to be accumulated during the next six years by segregation of a portion of the city's property tax income. This, says Jeffries, is essentially a maintenance program, and it isn't suited to the postwar job.

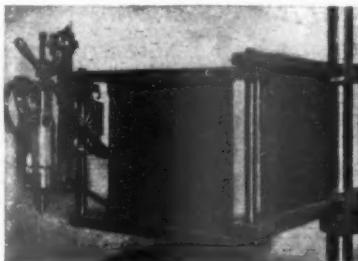
City planners like some of Jeffries' ideas. The city airport is not eligible to receive the heaviest traffic, and additional sites are in contemplation, along with a proposed international port (BW—May 22 '43, p66). There is a decayed area in the periphery of the downtown district where property values have approached rock-bottom. Superhighways are dear to motor-minded Detroit, but the money isn't available.

• On the Other Side—Opponents of the plan have the obvious complaint that they already are taxed to the breaking point. They also have another: Give a politician some money—clearly earmarked though it may be—and he's pretty likely to find a way to spend it for something else.

IN THE NEWS WITH TORRINGTON-BANTAM



KEEPING THE STEEL FURNACES FILLED at the Kaiser plant on the West Coast is the job of buggies like this, each with a 25-ton capacity. Constructed by the American Car and Foundry Company, these cars employ Bantam Quill Bearings on the axles where they contribute to efficient service because of their low friction coefficient, high load capacity and effective method of lubrication. This application is typical of the many ways in which the unique properties of these bearings aid industry.



PLANE PRODUCTION IS SPED by the radial arm attachment built on this electric drill by Black & Decker which makes it possible to operate the unit like a drill press. Two of the many advantages that are obtained in this arm attachment through the use of Bantam Quill Bearings are compact design and efficient anti-friction performance.

FASTER CROP PLANTING is made possible by this heavy-duty "Rototiller" which performs all the functions of the plow, disc and harrow and prepares seed beds ready for planting in only one operation. Bantam Needle Rollers are used on connecting rods and wheels. Needle Rollers and completely assembled units form part of a complete line of Needle Bearings.

FOR NEW AND UNUSUAL APPLICATIONS, Bantam offers custom-designed bearings as part of its wide variety of special-type bearings. Also available from Bantam is a complete selection of needle and standard anti-friction bearings. To obtain unbiased engineering counsel in the solution of your bearing problems, TURN TO BANTAM.

TORRINGTON BEARINGS

ARMY NAVY

Straight Roller • Tapered Roller • Needle • Ball

THE TORRINGTON COMPANY • BANTAM BEARINGS DIVISION

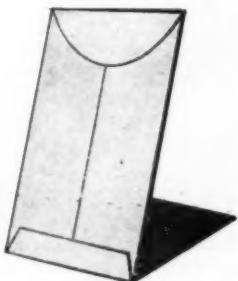
SOUTH BEND, INDIANA



**YOUR PROBLEM
(TO PROTECT WAR PRODUCTION)**



**EMPLOYEE'S PROBLEM
(TO PROTECT HIS FAMILY)**



**THE
"PROTECTED PAY ENVELOPE"
HELPS SOLVE BOTH**

... because it provides the kind of security that kills worry ... allows full time concentration on work.

FOR DETAILS, WRITE



WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

WPB Forms

As present stocks of WPB forms are exhausted, a simplified system is being put into effect (CMP and CMPL forms excepted). The June issue of "Priorities," monthly index of WPB orders and forms, lists a conversion table showing more than 600 new numbers assigned to old WPB forms. "Priorities" may be procured from the Superintendent of Documents, U. S. Government Printing Office, Washington, for \$2.00 a year.

Controlled Materials Plan

A booklet of simplified instructions for preparing bills of materials under CMP has been issued, to supersede the instructions of Nov. 14, 1942.

Suppliers' Inventory Limitations

All suppliers whose total inventory at cost is less than \$35,000 are exempt from restrictions of L-63. The previous exemption covered suppliers with inventories of less than \$20,000. This action, which eliminates several thousand small wholesale and retail suppliers from control, limits inventories, in most states, to the total dollar value of sales during the three preceding calendar months, as compared with the two months' sales previously used. States that are exceptions to the three-month rule are allowed a four-month stock. Seasonal goods are permitted to be stocked beyond a distributor's permissible inventory limit for a period not to exceed 120 days. (Order L-63, as amended.)

Sugar

To meet the anticipated increased demand for sugar for home canning, an OPA amendment permits wholesalers and retailers, effective June 16, to apply for temporary increases in their sugar allotments and to operate with double their allowable inventories for a period ending Aug. 31, 1943. (Amendment 67, Rationing Order 3.)

Canned Fruits and Vegetables

Six types of canned fruits and vegetables from the 1943 pack that were formerly restricted to government requirements are added to the canned products available to civilians, by action of WPB. This ruling releases approximately seven and a half million cases of applesauce, blueberries (or huckleberries), figs, beets, carrots, pumpkin, and squash from the 1943 pack for civilian use. (Conservation Order M-81, as amended.)

Shoes

Beginning June 16, all distributors of shoes will be required to invoice rationed and nonrationed shoes separately, with each invoice plainly marked, to prevent violations

of R.O. 17 by dealers who have insufficient information to determine what footwear is rationed and what is not. (Amendment 2 to R.O. 17.)

Shoe Quotas

A greater degree of flexibility is allowed to shoe manufacturers in adjusting their civilian production quotas to seasonal fluctuations or hardship conditions, in an amended WPB action that permits manufacturers to add to their civilian quotas to the extent that their military production is decreased. Instead of using the last six months of 1942 as a base period, shoe manufacturers may now compute their production quotas using as their base period any consecutive six calendar months within the period from July 1, 1942, to Apr. 30, 1943. (Order M-217, as amended.)

Wool Waste

Because the supply of olive drab waste rags, and clips now in the hands of the quartermaster is in excess of immediate or anticipated military requirements, such wool waste has been released by WPB for civilian use through revocation of the former restricting order. (Order M-87.)

Magazine Export Licenses

Office of Censorship licenses for exporting magazines containing technical, scientific, or professional data will no longer be required after July 1.

Gasoline

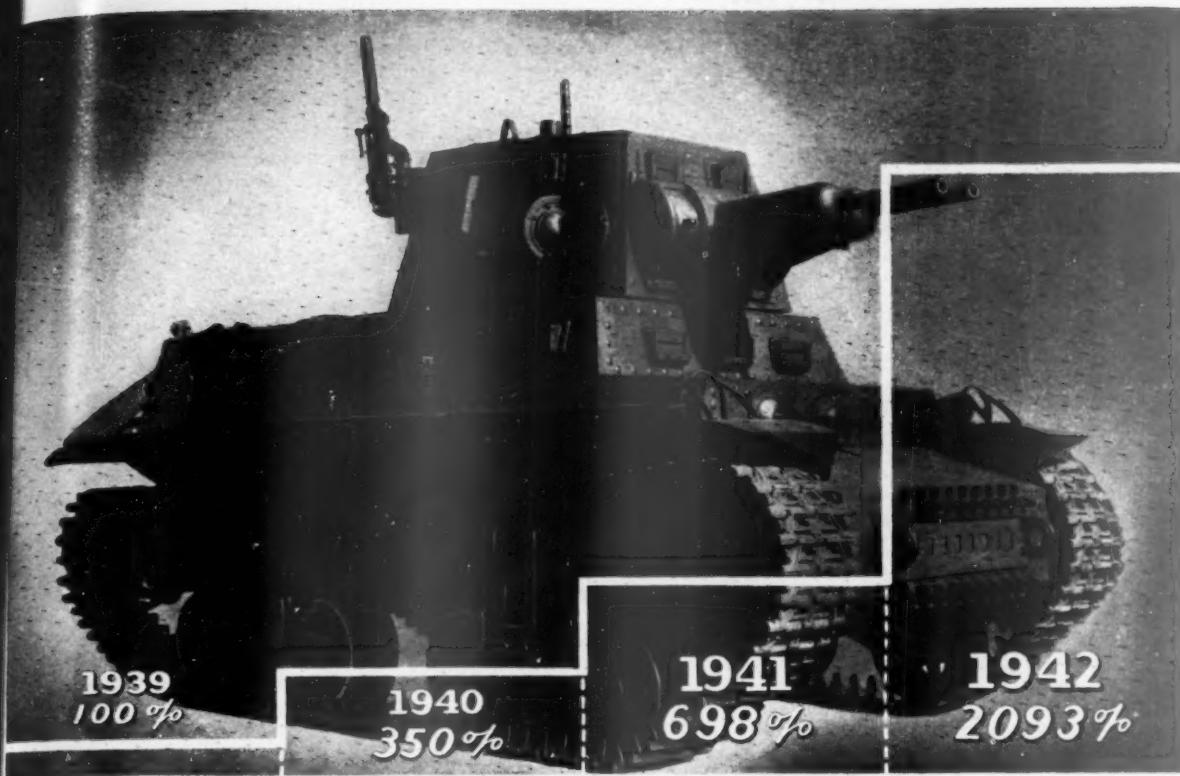
Industries to be accorded preferential treatment in the eastern gasoline shortage area have been completely reclassified on a basis of the degree of essentiality, the Office of Defense Transportation has announced. Essential industries are recast, with some additions, into four groups: AA-1, most critical; A-1, very critical; A-2, critical; and A-3, important. However, even those carriers with top ratings will not be granted additional gasoline unless they are utilizing their trucks to the fullest possible extent.

Scrap Tires

The many thousands of "twilight" tires that are potentially reusable may now be withheld from reclaiming plants if they can be made serviceable by the application of patches and other repairs. This ruling of the Office of Rubber Director supplements the order to withhold scrap tires that can be repaired by the addition of reiners alone. (Amendment 4, Supplementary Order M-15-b.)

Rental Cars

Rental car agencies are eligible to buy new passenger automobiles under rules recently announced by OPA. Agencies are eligible



KEEPING A PROMISE

* **LAST JUNE**, in an advertisement appearing in the public press, we made this prophecy:

"If we know anything about industry, and particularly the automotive industry, of which we are a part, a vast increase in military production for 1942, over 1941, is 'in the bag' ... What we have done, and are doing, we know that hundreds of other prime contractors are doing and will do in 1942. Our government will get the additional production of planes, tanks and guns asked for this year—and a lot more—if we know what it's all about—and we think we do!"

Now, let's look at the record. While

the national interest does not permit the publication of actual production figures, the evidence is clear that American industry has equalled, and in many instances exceeded, the requests of our military leaders.

Our own production of Marmon-Herrington trucks, tractors and combat tanks, which had already increased in 1941 to almost seven times that of 1939, rose again in 1942 to approximately three times the 1941 production. Thus by 1942 our output was about twenty-one times our prewar volume.

Of the thousands of American war production plants many even ex-

ceeded our production increase during 1942. We are happy that they have, because the United Nations need every truck, every tank, every airplane, ship and gun that all of us can produce. But because we had attained in 1941 a greatly accelerated production (698% of 1939) our task was correspondingly more difficult.

Multiplying the rate of our production again, in 1943, is not easy, but it is being done. Let's all redouble our efforts now. Let's work harder, put in more hours, and buy more bonds. By so doing, we can shorten the war and save thousands of precious American lives.

MARMON-HERRINGTON

INDIANAPOLIS, INDIANA

WHITNEY

AIRCRAFT CHAINS

help to get

'BOMBS AWAY'



When a bomber takes off, Whitney Chains are called into action on landing-gear retractor, elevator and aileron controls. In fighting off an attack, Whitney Chains help to turn the power-driven gun turrets. And when the bomber nears its target, Whitney Chains help to open the bomb doors. On each job, each chain must function instantly and positively, at command.

And in its direct service to the aviation industry, the Whitney Aviation Division functions in the same way . . . instantly, positively, at command. This service brings to you, personally, all of Whitney's experience in engineering roller chains and sprockets into the individualized design requirements of many different aircraft mechanisms and controls. Say when you are ready to talk to a Whitney Engineer.

THE WHITNEY

Chain & Mfg. Co.
Hartford, Conn.

**AVIATION
DIVISION**

for rationing certificates to acquire hard-topped cars listed by the manufacturers at less than \$1,500, provided they will rent the cars only to essential workers who are eligible to buy them or who possess authorization for rental. (Amendment 5, R.O. 2B.)

Steel Parts

To encourage new production of essential steel products, recent WPB orders have eased restrictions and offered special incentives to new manufacturers in the field. Steel valves, valve parts, and subassemblies have been exempted from price control when sold by a subcontractor or sub-subcontractor to a valve manufacturer with a specified Navy contract, provided the subcontractor has not furnished such products to the contractor prior to June 7, 1943. (Amendment 12, Revised Supplementary Regulation 1; Amendment 23, Revised Supplementary Regulation 11.)

A markup of 11% over total production costs for cast steel, forged steel, and steel plate flanges sold by new producers for use in the war program has been allowed, to ease a temporary nation-wide shortage of flanges. In general, this markup is good only for producers who were not engaged in the manufacture of flanges before Jan. 1, 1943, and who will sell and deliver them before Aug. 31, 1943, when this ruling is expected to terminate. It is not applicable to a person who performs the complete operation of flange production in his own plant; at least one of the essential operations must be performed on a subcontract basis. (Amendment 6 to Order A-1, under Regulation 188.)

Deliveries of Steel

The basic order covering distribution of steel and iron products has been amended to take into account the full operation of the Controlled Materials Plan, which begins July 1, and brings distribution of these products under strict control. Second quality material and shearings of all types are subject to the same restrictions as prime material; used, recovered, or salvaged steel is not covered. (M-21, as amended.)

Steel Inventory

To reduce the inaccuracy of existing inventory records, a WPB order has been issued prohibiting sales of steel listed with Steel Recovery Corp. at Pittsburgh, Pa., except on authorization of WPB. A substantial listing of frozen and excess steel has accumulated in Pittsburgh, but the effectiveness of the operation has been seriously reduced by failure to obtain notification of the movement of listed steel.

Because of the need to supplement third-quarter allotments of steel, WPB is prepared to issue authorization for the sale of idle and excessive steel listed with Steel Recovery Corp. without requiring the purchaser to credit the purchase against his Controlled Materials Plan allotment. (Priorities Regulation 13, as amended.)

Sheet or Strip Steel

Sheet or strip steel that was held in a manufacturer's inventory on June 10, 1943, or was reported as idle or excess inventory to the WPB, in care of Steel Recovery Corp., may be used for the production of



Eagle Precision Tool & Die Co.
Long Island City, N. Y.

Fletcher General Hospital Construction
Project
Cambridge, Ohio

Liberal Air Field Construction Project
Liberal, Kan.

Ozark Ordnance Works Construction
Project
El Dorado, Ark.

(Names of winners of the Army-Navy and
Maritime Commission awards for excel-
lence in production announced prior to
this new list will be found in previous
issues of Business Week.)

certain parts of automotive truck bodies. The amended WPB order also allows sheet strip mill rejects, seconds, or wasters to be used. The amount of new steel allowed repairing or altering bodies of automotive trucks and trailers is limited to 30% of that used in the original body. (Order L-253, as amended.)

Cans

Tables of revised packing quotas have been issued in an amendment to a WPB order which increases the number and quantity of nonfood products that may be packed in cans during 1943 and clarifies or modifies certain provisions of the existing order. (Order M-81, as amended.)

Copper

As of Aug. 1, 1943, WPB is terminating its present practice of paying prices substantially above the current scrap price level for copper stocks that are unusable in the present form, that have been made idle as a result of the conservation program, and that are required for remelting for war purposes. Holders of idle inventories of unusable copper and copper-base alloys reported on and after Aug. 1 will be directed to sell them at scrap prices. Forms for reporting such inventories may be obtained from the War Production Board, c/o Copper Recovery Corp., 200 Madison Ave., New York, N. Y.

Mercury

To direct idle mercury stocks to useful channels, WPB is requiring operators of all gold mines, active or idle, to report the amount of mercury on hand and is urging them to sell as much of their inventory of this metal as possible, under Priorities Regulation 13, which permits the sale of idle stock to dealers or other authorized users. In cases where there are no idle inventories, a report to that effect must be made to WPB-2755.

Aluminum Rivets

To build up a backlog of rivets against future demand by the expanded aircraft pro-

THE NIGHT
OF JANUARY
21st

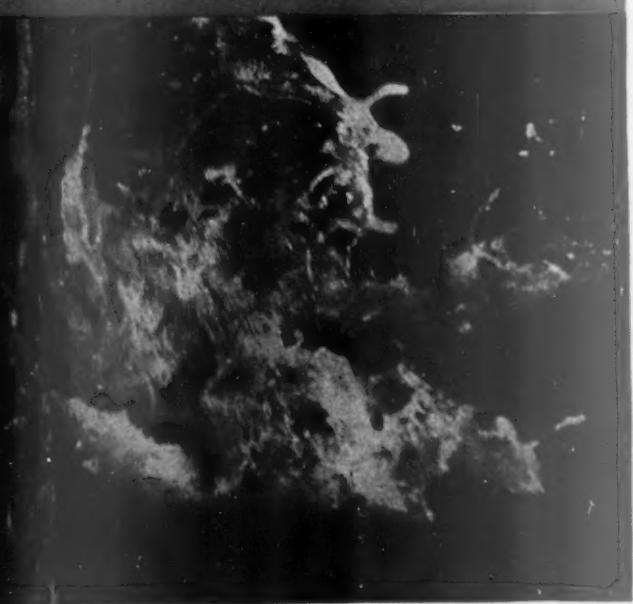
It happened barely two years ago — on January 21, 1941 — and already it is changing the shape of the world. On that night, men held in their hands a bar of the world's lightest metal — the first ingot of pure magnesium to be taken from the sea.

The men were chemists and engineers of Dow Chemical Company, and the metal mermaid which they held that night was the creature of many years of experiment in the field of ocean mining. As a result of those years of search and research, most of our production of over 200 million pounds of magnesium this year will come from the limitless sea, and plants are building for the production of many times that amount. . . . Also as a result of those years, a whole new age of light metal parts, products — and problems — has begun.

Today, 99 per cent of all magnesium production is going into aircraft. But after this war, with a wealth of experience, new techniques and a yawning capacity, magnesium will be ready to bid for other markets: streamliners, busses, trucks, trailers, engine forgings, household appliances, building materials, and the whole broadening field where weight and load factors are of increasing importance. And with this new production will come the problems.

As specialists in internal grinding — with engineers and machines on nearly every aircraft production line in America — we at Bryant have had a great deal to do with parts made from lightweight metals.

We believe that this knowledge can be of greater value to you than ever before in meeting today's efficiency requirements and in planning ahead for tomorrow's. Bryant's Consulting Service is available to you at all times. Call upon us now!

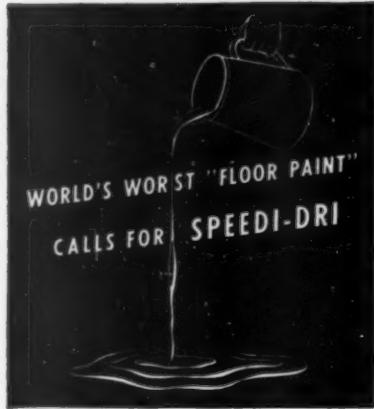


Bryant Chucking Grinder Company

SPRINGFIELD, VERMONT, U. S. A.



SEND FOR THE MAN FROM BRYANT!



If you're carelessly "painting" the floor of your plant with inflammable, slippery oil, you need Speedi-Dri. Take a walk through the shop. Notice the condition of the floor around the machines. Can you possibly overlook the danger of your employes slipping in that oily mess? Think what a carelessly dropped match or cigarette might do!

Speedi-Dri soaks up grease and oil like a sponge, sets up an immediate skid-proof surface and blankets the hazard of flash fires. So great is its affinity for oils that, in time, it will pull old deposits right out of the floor, restoring the original appearance. Speedi-Dri saves workmen's shoes from oil-rot, minimizing the danger of foot infections. Easily and quickly spread by hand, it conserves vital manpower. No matter what you are now using, Speedi-Dri can do the job better, faster, cheaper. Prove it by testing Speedi-Dri in your own shop. (Where water is present or water soluble oils are used, ask for Sol-Speedi-Dri.) Prompt service from warehouse stocks in leading cities.



Ask for demonstration or write for a generous free sample of Speedi-Dri.

SPEEDI-DRI
OIL AND GREASE ABSORBENT

SUPPLIERS

East — REFINERS LUBRICATING CO.
New York City
Midwest and South
WAVERLY PETROLEUM PRODUCTS CO.
Philadelphia, Pa.
West Coast
WAVERLY PETROLEUM PRODUCTS CO.
Monte Park, Calif.

gram, WPB has ordered that through Dec. 31, 1943, the inventory restrictions of CMP Regulation 2 shall not apply to the acceptance of deliveries of aluminum rivets for use in the production of aircraft and aircraft components. (Inventory Direction No. 9.)

in food production. (Amendment 1, Production Order 3, as revised.)

Mechanized Rubber Goods

Essential producers of essential mechanized rubber goods may secure individual adjustments of their ceiling prices by filing application on Form OPA 696-167a, in accordance with Revised Procedural Regulation 1. (Amendment 9, Regulation 149.)

Other Priority Actions

General Preference Order M-28 prohibits the sale or receipt of chlorinated hydrocarbon refrigerants (Freon) for use in comfort cooling systems. . . . Steel may be used in the manufacture of guards or housings on mechanical power transmission drives under L-193 as amended. . . . Petroleum Directive 57, governing use of tank cars for shipment of gasoline in middle-western and southwestern states, has been revoked, and Directives 65 and 6 have taken over the complete coordination of the supply and distribution. . . . Because prospective supplies appear sufficient to meet all requirements, the War Food Administration has removed sweet potatoes and carrots from the list of dehydrated vegetables reserved for war needs; processors are required to continue holding the stocks on hand on June 1 for delivery to the government, however (Food Distribution Order 30). . . . Direction 4, CMP Regulation 5, rules that steel stitching wire used by printers and publishers for purposes defined in WPB Order L-291 is an operating supply that comes under the Controlled Materials Plan. . . . Ethyl acetate and isopropyl acetate, used in the manufacture of lacquers and paint thinners, have been placed under allocation control by M-327.

Other Price Actions

The premium on wholesale pork cuts that sellers may add to maximum prices for the cuts when delivered to hotels, restaurants, and other purveyors of meals has been increased to \$2 a cwt. by Amendment 6 to Regulation 148. . . . Producers of Pennsylvania anthracite and of miscellaneous solid fuels are subject to adjustable pricing provisions contained in Amendment 13 to Regulation 112, and in Amendment 18 to Regulation 121. . . . Hydrogenated linseed margarine oil, used in the manufacture of linseed oil margarine, has been exempted temporarily from price control where the margarine is destined for the Food Distribution Administration (Amendment 35 to Revised Price Schedule 53). . . . Retail ceiling prices for officers' summer uniforms have been clarified by OPA Amendment 1 to Regulation 385. . . . All sales by domestic producers of potash have been brought under uniform price control by Regulation 404. . . . Revised Maximum Price Regulation 26 fixes maximum mill prices for Douglas fir and other West Coast lumber. . . . Dollar-and-cents ceiling prices at all levels have been announced for western red cedar lumber (Regulation 402). . . . Powdered skim milk and powdered buttermilk for animal feed have received maximum ceiling prices under OPA Regulation 280. . . . Amendment 5 to Regulation 170 provides that a container deposit may be charged when antifreeze is sold on a container-returnable basis.

Burlap

Reflecting an improvement in the supply of burlap (BW—Apr. 18 '42, p80), a recent WPB amendment has increased the number and quantity of products that can be packed in new burlap bags. For the first time, the packing of flour, petroleum waxes, and stearic acid (cakes or slabs) in new burlap bags is permitted, and more new bags are made available for use in the packing of processed feed and seed and grain. (Order M-221, as amended.)

To make sure of an adequate supply of burlap for military and agricultural needs, all imports of burlap purchased by private dealers after June 7 have been stopped by WPB action under authority of Order M-47 (Burlap).

Leather

Manufacturers of leather products are permitted to use cattle hide, calf, and kid leather for any purpose, if the products will be completely fabricated by Dec. 31, 1943, if the leather was ordered prior to Feb. 17, and was delivered to the manufacturer before Apr. 1. This WPB action allows producers to use up inventories of any weight leather for the manufacture of civilian items formerly prohibited; it does not, however, supersede L-284, covering luggage. (Conservation Order M-273, as amended.)

Cotton Netting

Because the armed services have been experiencing difficulty in obtaining netting for camouflage, WPB has ordered all cotton yarn producers to maintain weekly deliveries to specified camouflage-netting concerns in amounts at least equaling their commitments for this same purpose during the week ended May 15, 1943. Other specified net manufacturers are to be supplied with minimum quantities weekly, the amount varying with each producer.

Irrigation Equipment

Restrictions on distribution of rationed irrigation equipment have been removed so that authorized manufacturers may distribute 100% of their authorized production of pipe, extensions, and sprinklers. Sales to farmers are still subject to local rationing, however, so that equipment may be directed to persons who can use it most effectively



Basis for Postwar Planning:

ONE-FIFTH OF A NATION— GOVERNMENT-OWNED

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Today this government-owned plant rolls out air transports. But what about all the government-owned plants tomorrow?

"Keep government out of industry" has long been a rallying cry among those who speak for private enterprise. But the cry has become almost meaningless in the days since the United States began to prepare for this war that now engages all our productive resources. What will it mean when the war is ended?

To help management deal with that question is the purpose of this Report to Executives which starts with the fact that "without anyone's intending it, almost without anyone's noticing it, large sectors of American industry have been socialized during the last three years."

Other facts serve to summarize how and why the government has assumed physical ownership of about a fifth of the industrial capacity of the country since 1940. Figures show how the government equity interest in industry, as a result of the forced expansion of the war, is distributed. And the implications of this situation for postwar planners are brought out as clearly as those implications can now be seen by men who do their wartime thinking with a postwar turn of mind.

These are the dimensions of the problem which government investment in industrial plant poses for postwar planners. It is a problem from which there is no escape—as the concluding paragraphs of the report demonstrate. And it is a problem of business in government, as well as of government in business.

This report is one of a series dealing with the prospects and problems that confront American business management as it looks beyond the war. First of this series, published in the May 22 issue, discussed postwar economic relationships under the title, "Our Stake in the Pre-Peace Conferences". Other reports on other phases of the postwar outlook will follow in subsequent issues of *Business Week*. The series as a whole is designed to assemble, interpret, and place in perspective the basic data on which sound postwar planning in all departments of management interest depends.

ONE-FIFTH OF A NATION— GOVERNMENT-OWNED

Without anyone's intending it, almost without anyone's noticing it, large sectors of American industry have been socialized during the past three years. The old bugaboo of government ownership of industry has become an accomplished fact as a mere incident to the drive to create a munitions industry in a peaceful country. In other times, decades of controversy would have resulted from a proposal that the government assume physical ownership of about a fifth of the industrial capacity of the country. Yet, since 1940, the government has done exactly that, has done it with hardly any con-

troversy, has done it under the auspices of industry itself and of the most conservative elements in the Administration. And no one has cared much.

Actually, today, it isn't very important. Government regimentation of industry—through award of war contracts, through allocations of materials, to a lesser extent through allocations of manpower—is so complete that mere ownership is a matter of indifference.

Hot Issue Coming Up

But, with the end of the war, it won't continue to be a matter of indifference. The contracts will come to an end. Allocation of material and men will disappear. But the government's title to physical assets goes right on until they're sold or junked or given away. What's to be done with that assorted collection of shipyards, rubber plants, steel mills, aircraft factories will become a major economic and political issue.

It will surely be a hot issue, and it won't be a simple issue of public or private ownership. There is an infinite variety of possible degrees of government participation in, or residual control over, the former war plants. And even granting that the government honestly tries to divest itself entirely and promptly of ownership of factories, the issue is still a tough one.

It'll be no easy job to dispose of the plants without providing a field day for speculators, or without giving some companies unfair advantage over others, or without preventing fullest practical use of the new capacity.

And with the control of whole industries at stake, it's a safe assumption that most of the strongest financial and industrial interests in the country will be in there fighting for preferred position.

First Try—Amortization

Back in mid-1940, at the very beginning of the defense program, it became evident that, if the United States was to build up a munitions industry, a substantial amount of additional manufacturing capacity was going to have to be provided. It was equally evident that industry—which had been plagued for ten years by excess capacity—couldn't see any profit or safety for itself in putting its money into munitions plants with an uncertain future. In fact, throughout the summer of 1940, industry showed itself distinctly reluctant to getting tied up in munitions contracts until the question of plant investment was straightened out.

First attempt to solve this problem was along the line of tax concessions. After several months of congressional debate, a bill was brought out permitting a war contractor to amortize his investment in plant, for tax purposes, in five years. That is, in computing his taxes each year, he could deduct from his net income one-fifth of the cost of any new facilities he had installed.

By the time the signature was dry on this law, however,

How the War Expansion Has Been Financed

It has never been any secret that the government has acquired a huge stake in industry as a result of the need to build up our munitions output and to expand many other lines of production to wartime size—though not everyone has realized that that stake runs to a fifth of the total of our manufacturing capacity. But, until this week, censorship has prevented a breakdown of the government's investment by industries. Many of the figures are still restricted, but here, broadly, is how the \$19,338,997,000 expansion of capacity has been split among industries and between private and public financing:

	Public	Private
NONMANUFACTURING FACILITIES (mines, power lines, etc.)	\$341,592,000	\$1,384,432,000
FACILITIES FOR MANUFACTURE OF:		
Aircraft, engines, accessories, etc.	3,084,782,000	241,846,000
Ships (construction and repair)	1,991,487,000	94,980,000
Motorized vehicles ..	424,950,000	77,600,000
Guns, shells, bombs, etc.	1,869,707,000	227,140,000
Explosives and ammunition loading.	2,856,357,000	11,752,000
Iron and steel products ..	1,261,238,000	565,154,000
Nonferrous metals and products ..	1,126,270,000	302,110,000
Machine tools and other metal-working equipment ..	153,183,000	140,369,000
Machinery, electrical equipment and appliances	462,142,000	308,579,000
Chemicals, petroleum and coal products	1,303,751,000	664,983,000
Miscellaneous	264,363,000	190,230,000
	14,798,230,000	2,824,763,000

it had become clear that no sort of tax concession was alone going to make investment in the munitions industry attractive, or even tolerable, to private capital. Value of tax concessions, after all, was contingent on maintaining a high enough rate of profit to have something to charge the concessions against.

The government had to put up the money. But the first procedure adopted made an effort to disguise this fact and preserve the forms of private investment.

EPF Contract Next

This was the Emergency Plant Facilities (EPF) contract. Under this plan, the government executed a supplementary contract with war contractors agreeing to pay the cost of new facilities in 60 monthly instalments. With this EPF contract as security, the contractor would borrow from his bank the funds needed for a plant. The monthly payments would, of course, be tax-exempt under the statutory provision for rapid tax amortization. Title to the plant would rest with the contractor until the payments were completed and then would pass to the government unless the contractor chose to buy the facilities.

This had the disadvantage to the government of requiring it, in effect, to pay interest on its own money—since funds already appropriated had to be impounded and held idle to cover the future instalments. Nevertheless, it was developed and propagandized by the then National Defense Advisory Commission as a concession to industry.

But industry itself didn't like it. For one thing, manufacturers feared that, in borrowing money for new plant from the banks, even on the cast-iron security of an EPF contract, they would make such inroads on their line of credit as to endanger working capital positions. Also, although the tax amortization law seemed to protect the contractor against any liability arising out of his holding title to the plant facilities for five years, still the computations were complicated; five years is a long time, and no one can predict with certainty what changes will be made in tax laws. Finally, there was a widespread feeling among industrialists that it was a good idea not to tie too close to the munitions business; they just didn't want the damned stuff on their books.

Meanwhile, Jesse Jones' Reconstruction Finance Corp. was taking a new tack. RFC set up a subsidiary corporation, the Defense Plant Corp. ("Plancor," as the government codes it). Plancor offered to build plants certified as necessary by the armed forces or by the National Defense Advisory Commission and lease them to private operators. The lessor would be given an option to purchase the facilities at the end of the war.

Government Plant Does It

Industry went for this scheme in a big way. More or less in spite of NDAC, war contractors flocked to Plancor. The EPF contract was practically abandoned, and, in fact, most of the EPF contracts already arranged were converted into Plancor contracts.

At the same time, the Army, Navy, and Maritime Commission began working out similar arrangements. They obtained appropriations from Congress for plant expansion, built the plants, and arranged rental or operating deals for their operation by private firms.

There is no precise line of demarcation as to the nature of plant handled by the armed forces and the sort handled by Plancor. In general, however, plants with purely military utility—powder mills, shell-loading plants, oversize forges and gunboring lathes useful only for ordnance—were handled by the Army or Navy, general industrial stuff by Plancor. Notable exceptions are the four major western aircraft assembly plants which the Army built but the Army expects to use these as Air Force depots after the war.

In all of these cases, the government activity in connection with the plant was primarily financial. The prospective operator and lessor ordinarily designed the plant and arranged for its construction and equipment. To the man in the street, it looked no different from any private plant.

It should be remembered, too, that not all the government-financed plant consists of big new factories. Sometimes it's a single machine in an existing plant; sometimes it's a new department designed to open out a bottleneck in some industrial process; the combinations are endless.

Few Loans Required

Since the death of the EPF contract, a number of different schemes for loans or guarantees of loans to contractors have been set up, covering both the plant and operating capital. But none of them has taken hold. Their volume has been insignificant compared to that of outright ownership schemes. By and large, the government has financed the munitions industries on an equity basis.

When industry and government embarked on the method of financing plant expansion, hardly anyone conceived of the problem of postwar unscrambling that it would involve. For one thing, no one dreamed of the sheer volume of new plant that would be required. Moreover, since most of the plant contracts carried purchase options, it was assumed that after the war they would either be junked or be bought by their wartime operators.

One-Fifth of a Nation

The scale of wartime plant investment is breathtaking. In the three years of the defense and war period, expenditures on plants built, building, or arranged for has come to just under twenty billion dollars. This compares with an estimated value of prewar manufacturing plant and equipment of some fifty billions. True, the twenty-billion figure includes costs of plant conversion, but the overwhelming bulk of it represents added capacity. Of this sum, just over fifteen billion is publicly financed (including a small portion financed by the British government). These figures are still increasing slightly, but the main sweep of plant expansion is over. Hence it is now possible to see that the end of the war will find the country with just about a fifth of its productive capacity owned by the federal government.

Of course, this figure of a fifth cannot be taken as a long-term postwar constant. Not all wartime production capacity will be peacetime production capacity. For example,



There have been brand new industries in America before this, and many of them have been born of war. Some of them, too, have had to go to the government for loans or gifts or tariff

help. But it's a new thing that a major young industry should find itself, as synthetic rubber will at the end of the war, with most of its physical plant owned outright by the federal

government. This styrene plant (it happens to be the one in Texas City operated by Monsanto Chemical) is the property of the Defense Plant Corp., an RFC subsidiary.

obvious instance, much of the nearly three billions of powder and shell-loading plants will prove useless after the fighting ends, unless we remain on an armed-to-the-teeth basis. On the other hand, much of the prewar plant may prove so obsolete in relation to the new facilities that it can be counted out. But, broadly, a fifth of the manufacturing capacity of the country can be taken as a rough measure of the size of the government stake as of "V-Day".

The Trouble with Options

As it has turned out, the purchase-option clauses included in the financing contracts look quite unimportant. The options have proved so unattractive that there is little chance that any great number of them will be taken up.

There is considerable variation among the option clauses, but the basic one is the standard Plancor clause, which is incorporated in nearly all of the Plancor contracts that carry options. Of the fifteen billions of government-owned plant, Plancor now owns more than eight and a half billion (\$8,333,000,000 last October). The Plancor share, moreover, comprises the plants with greatest post-war significance, while other plant runs more to strictly war stuff.

Purchase price in the standard Plancor option is the

larger of two figures: cost less depreciation, or Plancor investment less rental income received. This latter alternative is eliminated in those cases where the rental is \$1 a year. In other cases, rental rate is generally either a fifth of the cost of the plant times the percentage of capacity at which the plant operates (designed to pay the cost of the plant in five years if it operates at capacity), or it is figured at the annual depreciation plus interest.

In general, it is expected that cost less depreciation will be the controlling alternate. Depreciation rates are written into all the contracts. They vary in detail, but in general, they specify 5% a year for buildings, 12% for standard machine tools, and 25% for portable tools and similar equipment.

This is a little faster depreciation rate than the Treasury, for instance, normally recognizes for income tax purposes—acknowledgment of the punishing use to which munitions facilities are put. But it isn't so rapid as to be notably attractive. A residual value of 15% on manufacturing equipment, which can't be depreciated away, is written into the contract, and a residual of 25% to 30% on nonmanufacturing facilities.

A key point is the fact that the cost which is being depreciated is an inflated cost. The facilities were built at a time when building costs were a great deal higher than normal. Moreover, they were built at high speed

with all the attendant extra costs of overtime pay and the like. Physically, the plants are almost all substantial, well-built structures (though maintenance costs may be a little high on some of the latter projects where lots of substitute materials were used). None of them is in the strict sense temporary, and they are generally designed in accord with the most modern industrial engineering practice. However, few of them are laid out with an eye to the sort of product they might make in peacetime, so that substantial conversion costs would have to be met in addition to the purchase price.

If these points alone were not enough to put the curse on the purchase options, the all-or-nothing clause gives the coup de grace. This requires that if the contractor takes up the option on the facilities he is renting, he must take up the option on the whole outfit. He can't pick and choose and just buy up the cream. (An exception is made for properties that are widely separated geographically. If the same firm is operating a group of war plants in Buffalo and another group in Omaha, it has to buy all or none of the Omaha properties and all or none of the Buffalo properties, but it doesn't have to take up the options in both cities.)

Finally, there are substantial groups of plant facilities which have no options attached to them. The Maritime Commission, which owns most of the new shipyard facilities, does not use options. And Plancor has omitted options in the case of aluminum, magnesium, synthetic rubber, and pipeline projects. It did so in the first three cases because it recognized that it was creating huge new industries which dwarfed their prewar predecessors, and it wanted to keep a free hand; in the latter case, because it ran into technical difficulties as to who would have the option.

For Sale—At a Price

The fact that the industry options on government-owned plants can be disregarded, for practical purposes, does not mean that industry won't buy any of them. Unattractive as they may be at the option prices, the war-created facilities, nevertheless, constitute some of the most efficient productive capacity in the country. Much of it can be and probably will be sold to industry—at a price. But what the prices and the terms will be becomes a matter for negotiations and for political determination.

The net effect is that at the end of the war the government, for all practical purposes, will hold most of its fifth of industry in completely flexible form, will be free to do just about what it wants with it. Ownership will be scattered around among various agencies, but there appears to be nothing statutory about this. Government lawyers think only administrative action would be required to concentrate the holdings in a single liquidation corporation or to redistribute them among government agencies.

Two exceptions must be noted to this flexibility. A few of the plants financed by the Army and Navy which are located on privately owned land are subject to clauses requiring the government to clear the site after the war. This, of course, opens the way to shotgun sales at junk

value to the landowners. But there are very few of these in most cases where private land was used, long-term leases were obtained.

The other exception will arise if there is a real all-out inflation. In such a case, the plant-purchase options, almost regardless of their terms, would become valuable privileges. Many of them would be snapped up, and there would very likely be considerable speculation in them. This situation, incidentally, introduces a new type of dislocation which would accompany an inflation under present circumstances; an accidental advantage would be given to firms which happened to have such options.

Sell off Alien Holdings

The government-financed war plants will constitute the overwhelming bulk of the government's postwar equity stake in industry. But, at present, you should also add in the fairly substantial holdings that result from our seizure of the American property of enemy aliens. The Alien Property Custodian holds a great many patents of somewhat scattered value, some 150 miscellaneous small firms and a dozen or more rather important concerns of the caliber of American Bosch, General Aniline & Film, Rohm & Haas, etc. APC, however, is already starting to liquidate these properties, and the chances are that by the end of the war they will be in private hands with the government retaining nothing but cash.

The original value of the patents has been wiped out by throwing them open to universal licensing. The smaller industrial firms are being sold off by competitive bidding, with APC throwing out bids which would tend to create or support a monopoly, though, once the properties are sold, they are out of federal hands. A scheme is now being worked out for disposition of the more important firms by arranging wide sale of their common stock to the public; the government will probably retain some sort of voting trust rights, but the intention is to limit this to control over transfers of stock so as to prevent recapture by aliens.

Official government planning for the eventual disposition of its huge plant holdings is still in the most rudimentary form. Plancor is just taking the first step by inventorying its holdings. For the next month or so, it has two projects—a catalog of the machine tools it owns, and a catalog of factories with summarized information bearing on their postwar utility. Both these catalogs will be in punchcard form—a fact which, in itself, emphasizes the sheer bulk of Plancor operations.

Around the Lunch Table

Beyond such elementary steps, there is actually little of an official nature that can be done now. The decisions to be made are essentially policy matters. Unless someone can guarantee that the officials now in Washington will be doing business at the same stand after the war, attempts to make decisions now are so much waste of breath. Luncheon table conversation at Plancor and elsewhere runs the gamut of possibilities—government operation (conceivable but unlikely), private operation for the government on a fee or profit-sharing basis, lease of the facilities to private industry, outright sale.

Some of the lawyers like to speculate on possible formulas for a fair price. One favorite on this line would sell facilities for a cash sum equal to the realistic appraised value of the facilities plus preferred stock or nonvoting common to make up the difference between this sum and the value set forth in the formal option.

Actually, the problem of disposition of government plant is not one that admits of a single over-all answer. In a sense, every single plant presents its own problem.

Key point is that the government's stake is not evenly spread throughout industry. In the nondurable goods industries, such as food processing, textiles, and clothing, there is no government equity to amount to anything. But in the key war industries, it is overwhelmingly large. This concentration, in many ways, increases the difficulty of dealing with it.

Several fairly well-defined types of situation may be recognized:

Least economic importance attaches to the strictly and exclusively military facilities. Powder mills, bag-loading and shell-loading plants, expansions at Army and Navy ar-

senals fall into this group. So do some of the specialized machines like gunboring lathes, part of the armor-plate capacity. Much of the expansion directly financed by the Army and Navy enters into this category of plant whose only utility is for the production of war goods. Some, but probably not much, will stay in production.

In five industries—shipbuilding, aircraft manufacture, production of synthetic rubber, aluminum, and magnesium—the government after the war will own the overwhelming bulk of the productive capacity. The future of these lines is completely in government hands; essentially they are socialized industries as they stand at this moment in political history.

As to shipbuilding, it is probably a matter of no very broad significance. Hardly anyone expects that there will be room for very much additional shipbuilding after a year or two of construction at a 20,000,000-ton a year clip. To be sure, the federal stake in the merchant marine has been considerably increased, though perhaps not as much as might have been expected. However, for some years now, the U. S. merchant marine has flourished just

STOCKPILES AND SURPLUSES—THE FIRST PROBLEM

Most business men, when they speculate about the government's stake in industry after the war, think first of the stocks of goods and industrial materials which the government will hold. In a sense, this is short-range thinking; stocks of goods eventually run out, while productive plant lies at the very base of the economy—it can shape the future of industry for years to come.

Nevertheless, men eat and dividends get paid in the short range, and for a while after the war, government ownership of goods may well be of more immediate concern to business men than government ownership of plant.

From three sources, the government will find itself with large holdings on its hands at the war's end. The Reconstruction Finance Corp. subsidiaries—Defense Supplies Corp., Rubber Reserve Co., Metals Reserve Co., Steel Recovery Corp., Copper Recovery Corp., etc.—have been operating huge stockpiles of industrial materials throughout the war. These stockpiles of rubber, steel, copper, rope, alcohol, aviation gasoline, sugar, chrome, wool, antimony, drugs, mercury, diamonds, silk, aluminum, shellac, zinc, tin, lead, and nearly every other industrial commodity have been acquired for a variety of purposes. Some were bought as true stockpiles against future shortage, some to encourage production, some in connection with subsidy programs, some simply to maintain control over the supply.

A second source of government holdings of goods will develop in connection with cancellation of production contracts. Details are still unsettled, but, by present indications, the government will take over the storage and in-process inventories of some of its con-

tractors as part of the settlements. This will still further add to the stocks of industrial goods.

Finally, demobilization of the army will leave huge stocks of manufactured articles. The guns and the bombs will doubtless be held for future use, but most of the best civilian goods manufactured in the last year have been manufactured for the Army. Every farmer and many a city man wants a jeep. Radios, mess-equipment, trucks, blankets, shoes, and a thousand other things will be capable of giving good civilian service. There'll be enough uniforms in quartermaster depots to make olive drab and khaki the standard work garb for years.

Congress and trade associations are already mulling over mechanisms for distributing the consumer goods without hopelessly upsetting ordinary retail markets. Even more troublesome will be the stocks of industrial goods. Their mere existence will exert a depressing effect on prices and production. There will be pressure to dump them abroad or to forbid their sale below certain levels as has been done to agricultural stockpiles. On the other hand, there will be pressure to continue the stockpiling of many commodities to stimulate profits and employment. We may end up with something like a silver purchase program many times multiplied.

Again, operation of stockpiles can be used as a means of controlling and directing industrial activities. "I can set the price of wool tomorrow at any figure you want to name," says one stockpiling official of RFC.

Months before government and business have decided what to do with warborn plant capacity, perhaps even before the war is entirely over, business men are going to have to face the problems of stockpiles.

about to the extent that the government was prepared to subsidize it.

The merchant shipbuilding program has consisted of two parts—on the one hand, a group of well-built commercial-design freighters, tankers, and the like; on the other hand, the mass-production, substandard Liberty ships. The standard ships have been assigned to private owners and put with the prewar merchant marine, which has been requisitioned on a charter basis and will be returned to private hands after the war. The Liberty ships—some 2,000 of them by year-end—are all government owned. Some of them might be usable in tramp service after the war, but if the shipping market is at all competitive, most of them will be headed for the scrap pile.

This situation will be somewhat changed by the decision to build as many as possible of the new Victory ships. These will be government owned like the Liberty, but they will be modern high-standard vessels, capable of competing in any market. How many are built depends on the supply of turbines, etc., but contracts have been let for 500, or nearly 5,000,000 tons. This compares with a prewar merchant marine of 1,150 vessels of over 2,000 tons for a total of just over 7,000,000 tons.

The Coming Battles

It's no accident that the other "socialized" industries, too, face the prospect of a drastically curtailed market after the war. That's why they were so predominantly publicly financed in the first place. What isn't the result of planning, however, is the fact that these four industries are the storm centers of some of the fiercest industrial battles of the coming years:

Aviation is frankly out to obtain a major, perhaps a dominant, place in the transportation field, bucking the railroads and the ships and the buses and trucks to do it.

Aluminum and magnesium face a battle with the high-alloy steels and the plastics for position as the major materials in the age of light-weight building and manufacture which engineers agree is ahead.

Synthetic rubber may displace natural rubber at one stroke; it may be completely priced out of the market by tree rubber; or it may face a long fight, displacing the plantation product gradually.

In all these battles, the government has a definite equity stake on one side of the fight.

Going beyond these fields, there is hardly a major heavy industry where the government has not acquired a definite, if not a dominating, stake. In steel, for instance, the new war-created government-owned capacity which is not exclusively for war amounts to some 5% to 10% of the capacity of the industry. This is not dominance of the industry, but it is a big enough chunk so that its handling could profoundly modify competitive relationships.

To be specially noted is a factor cutting across all the metal-working industries. This is the huge pool of machine tools held by the government—standard tools, in the main, which can be applied to almost any metal-working job. It consists of the tooling for the ordnance manufacturing plants whose market disappears with the war, plus the tooling for those portions of the shipyards

and aircraft plants which will be no longer devoted to ships and planes.

There are no solid figures as yet on the dimensions of this pool. But it is known that by the end of this year some 875,000 machine tools will have been built in the four-year defense and war period. This is about two-thirds of the number of tools in place at the beginning of 1940. However, some 70% of the 1940 tools were more than ten years old, and it is estimated that the average productivity of the new tools is about twice that of the prewar tools. Some of the new tools have been sold or lend-leased abroad; some have got into private hands. But it looks like a conservative assumption that the government-owned pool of tools represents a good half of the metal-working capacity of the nation.

More Government in Business

These are the dimensions of the problem which government investment in plant poses for postwar planners. It is a problem from which there is no escape. There are no solutions of it which do not involve a tremendous amount of willing or unwilling intervention by the government in business affairs. Other factors are working in the same direction, but this one alone is enough to insure that no postwar administration in Washington will be able to follow the conservative less-government-in-business pattern of the middle 'twenties.

Unless it is prepared to sterilize the new plant, wipe out the war-achieved gains in national capacity to produce—an unthinkable step when the whole world will be crying for goods and jobs—by junking or holding idle the new factories, any postwar government will have to make economic decisions. It will have to decide whether or not to sell its plants. It will have to decide whom to sell them to. It will have to decide on what terms and at what prices it will sell. It can decide on conditions of sale covering labor standards, or products or levels of operation. And any one of these decisions can change overnight the whole pattern of an industry or the competitive position of a corporation.

If the federal equity stake in industry guarantees more government in business, it also foreshadows more business in government. When whole industries are being parceled out, when a difference of 10% in the price of a plant may mean life or death to some firm, the growth and success of a company may come to depend as much on the influence it can achieve in Washington as on its vigor in the shop or the marketplace. That, too, is something to concern the thoughtful business man.

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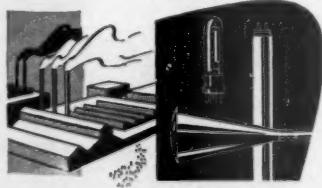
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Rectification: Electrical, air-conditioning by precipitation.

Protection: Against fire and sabotage, against overloads on electrical circuits.

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To "feel": Humidity, machined and polished surfaces, plating.

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FOOD

Off the Highways

Howard Johnson chain of restaurants, hit by rationing of gasoline, has come back by finding new mouths to feed.

When gasoline rationing swept the casual motorist off the highway, it abolished the patronage and locked the doors of many of Howard Johnson's roadside restaurants from New England to Florida (BW—Feb. 17 '40, p26). But for some fast and fancy managerial footwork, the shock might have been fatal.

- **Changes Bear Fruit**—Units near population centers, military stations, or big defense plants were kept open to catch the flow of war income; new outlets for Johnson's specialties were explored; new food products were developed. Still more important, the company went into industrial catering which means feeding workers in war plants, and it is now making a drive to extend this activity to schools and colleges engaged in the government's education program.

When the war troubles first hit, there were 200 Howard Johnson eating places beckoning to traffic with the distinctive New England architecture and the orange roofs that were visible for miles. Of these, 75 were company operated, the rest being run by franchise agents who were licensed to use the name and who bought a large part of their supplies from Johnson. Today Johnson is running 30 units and his licensees about 45 others.

• **The Chronology**—Gasoline restrictions began registering on the Johnson books

when the first mild restraint was applied in the summer of 1941. Roadside receipts took a real nose dive last January when pleasure driving was banned.

Total receipts in 1942 were roughly half the 1941 figure of \$25,000,000. Earnings reflect the slump in sales to licensees, for Howard Johnson, while operating restaurants of his own, made most of his profit from supplies sold to other units of the chain. His specialties were ice cream, candy, frankfurters (he never used such insults as "franks" or "hot dogs"), clams, coffee, sirups, and paper goods including napkins, table doilies, cups.

- **Yacht, Horses, Florida**—The management appreciated the gasoline threat and prepared to meet it. Howard Johnson was the typical self-made man, and he did the usual things with his wealth. He bought a yacht, he bought a big house and riding horses, he went to Florida for long winter rests, and he wasn't exactly happy withal, because a smooth running business left little outlet for his energies.

Johnson probably wouldn't admit it, but war problems hit his business like a ton of brick, acted as a stimulant. He sold his yacht at a time when prices were still high. (His judgment was vindicated when the new owner took it to Florida only to have it seized for patrol work by the Coast Guard on which service it was sunk.) He locked up his mansion and got rid of his saddle horses. The Wollaston (Mass.) headquarters began to see a great deal of him.

- **Picking the Right Spots**—First problem was what units to close. That was easy since remaining traffic or proximity to humanity supplied the answer. Last



Boarded-up units that dot eastern highways cannot be construed as a death notice for Howard Johnson's restaurant chain. By keeping the right ones open and shifting activities, Johnson promises to weather the storm.

winter, Johnson-operated restaurants in Miami and Miami Beach remained open—and did a land-office business. Washington and Alexandria units also kept going because of the war swarms in the capital. All eleven Johnson eating places on the Pennsylvania Turnpike remain in action, largely because bus and military traffic increased as tourist travel waned.

Johnson's biggest unit, that on Queens Boulevard, New York City, was closed. This building was put up and rented to him by Miss Lydia Pinkham Gove, a stalwart and awesome descendant of the patent medicine magnate. She also is interested with Johnson in the high-toned eating place on 50th St., New York City. The latter unit is coining money, making up in a large measure for the temporary extinction of the Queens Boulevard colossus.

• Removal Plans Balked—The remaining restaurants still run by Johnson himself are in the northeast. He made ambitious plans to shift from highways into cities, but he was stymied by War Production Board regulations. However, Johnson did take on three new restaurants which are running under the name of Red Coach Grill, one in downtown Boston and two in the suburbs.

Today, the management is closely watching performance of the remaining highway restaurants. Already some have shown a larger week-end business than in normal times.

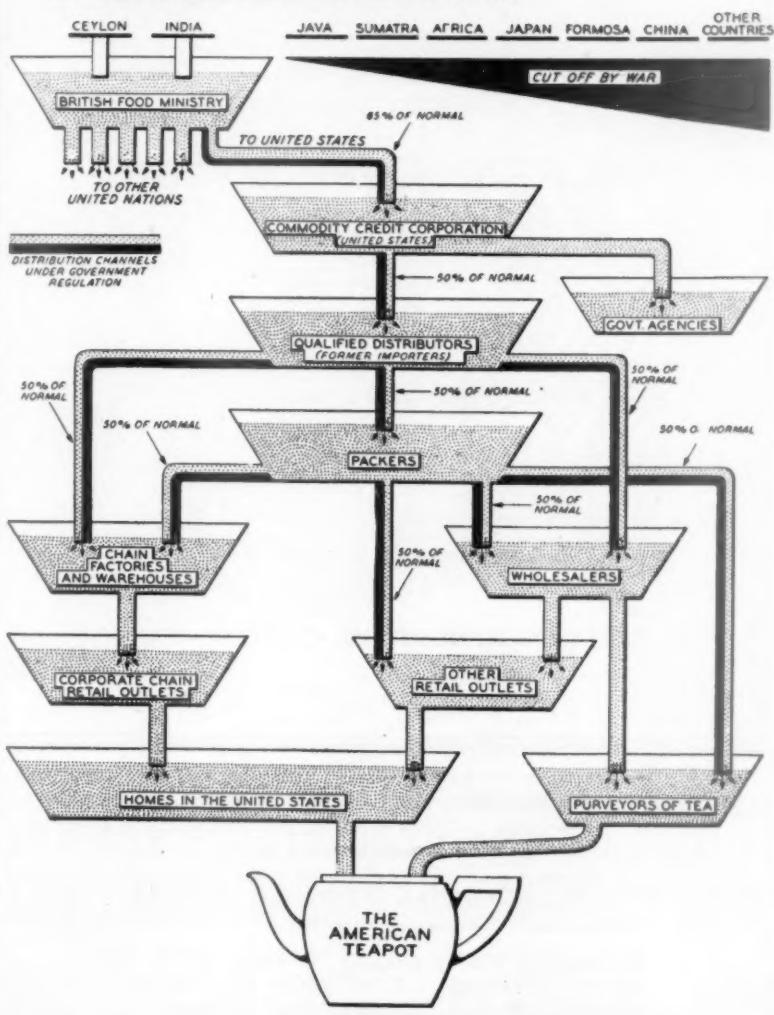
• Other Experiments—Johnson connected with the war dollar by selling candy to Army post exchanges and Navy stores. Also candy was sold for the first time through independent jobbers. Last September, Johnson's famous ice cream began to appear at the post exchanges. There was a surplus of syrup capacity in the Johnson plants so they stepped out and sold an orange marmalade order to the Army, processing several carloads of oranges weekly.

Experimental contracts for feeding workers in war plants were made in the spring of 1942. By December, Johnson decided to tackle this business; here was a large and hungry segment of prosperous consumers. Almost as important was the fact that the companies with war orders were willing and able to furnish the equipment for kitchens and dining rooms (excluding china and glassware). Defense plants were delighted to get rid of the feeding problem.

• Plant Cafeterias—Johnson officials point out frankly that they are small potatoes in the industrial catering field. They are feeding 43,000 workers daily, a mere handful compared to big companies in that line. All Johnson's plant catering is on a cafeteria basis with the exception of the larger plants with scattered stations which must be serviced by mobile truck equipment.

Plants served include Remington

HOW U. S. TEA SUPPLY IS DISTRIBUTED IN WARTIME



Authoritative sources have predicted simultaneously during the last few months that tea would be rationed—and that it would not. But rationing or no rationing, the Tea Conservation Order controls limited supplies by restricting wholesale deliveries to about 50% of normal. Thanks to such regulation, there is still a backlog of approximately 11,000,000 pounds in trade channels according to a report released last week by the Tea Bureau,

Inc. While this is only half as much as at the end of last year, the drop is partly offset by stocks held by the Commodity Credit Corp. Further, receipt of 65,000,000 lb. is anticipated under the international allocation agreement which went into effect Apr. 13 (BW-Mar. 27 '43, p72). The amount of tea held by the CCC is a war secret, but the trade considers its own backlog insurance against failure to maintain shipments.

Arms, Lowell, Mass.; Hercules Powder, Dublin, Va.; Western Electric, Clifton, N. J.; Watertown Arsenal, Watertown, Mass.; American Fireworks, Randolph, Mass.; United-Carr Fastener Co., Cambridge, Mass.; Herreshoff Shipyard, Bristol, R. I.; three plants of the Sperry (gyroscope) Corp. Also the company cares for a Navy fueling station, a Navy

operating base, and a Navy advance air base, all in Rhode Island.

• Chow, Army Style—Newest development is a contract with the Casey Jones Army air school at Newark, N. J. This project is laid out on the lines of mess feeding in the Army, not as a cafeteria plan. The government pays the bill (between \$1.30 and \$1.40 daily per

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MELLON SECURITIES CORPORATION

PITTSBURGH, JUNE 7, 1943

THESE ITEMS SPEED OFFICE ROUTINE AND INCREASE BUSINESS EFFICIENCY

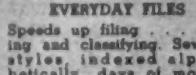
IF CLERICAL STAFFS ARE TO DO THEIR SHARE IN HELPING BUSINESS "SET THE PACE" FULL USE OF MODERN OFFICE ACCESSORIES MUST BE MADE . . .

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The Globe-Wernicke Co. . . CINCINNATI, O.

man). Menus are simplified, an accurate check is possible to determine how many men will be on hand for each meal, and the help problem is confined to the kitchen since the students return their trays to the dishwashers.

Johnson likes this business, is going after more of the same. He is making a direct drive for contracts with colleges and other schools which have been absorbed into the government's war training program. He has 12 to 15 pretty well lined up. One prospect is Princeton.

• Things Are Picking Up—The Johnson organization feels that this new business will put it over the hump. Johnson operations proper (excluding franchise agents) had the two biggest months in the company's history during March and April.

Candy vs. Thirst

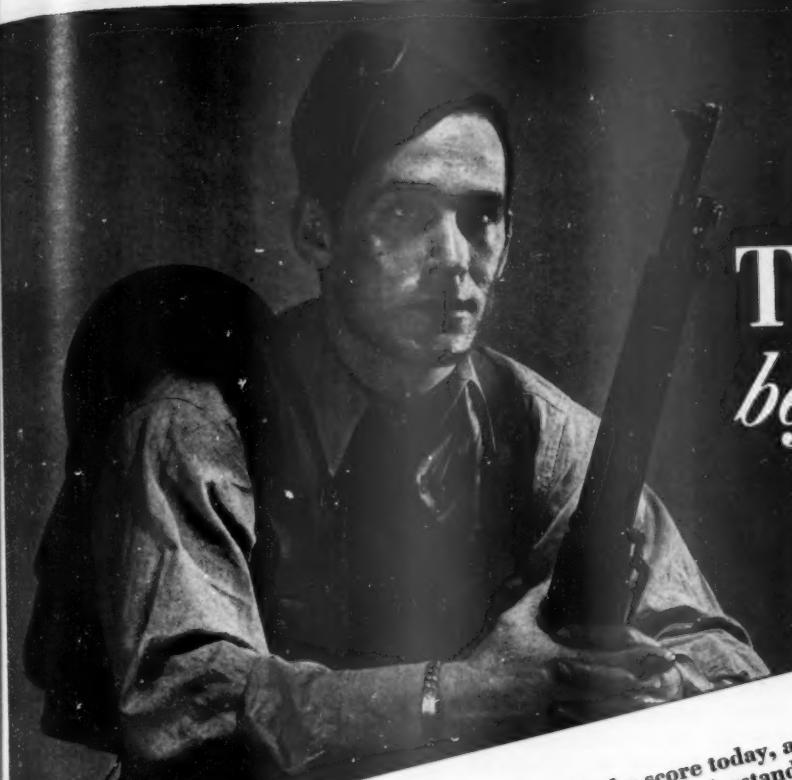
Contrary to the popular belief, sweets help to prevent dehydration, so QMC is putting hard candies on life rafts.

A new life-raft ration of hard candy has been developed by the Army Quartermaster Corps as a step in preventing death from thirst and starvation among men whose ships have been torpedoed. Contrary to popular belief, sweets—although they create a temporary throat thirst—help the body burn up its fats for energy without causing undue dehydration.

• How Candy Helps—The body consumes its own fats when normal intake of food is halted, and, with water, a man can live on less food. To be converted into energy, the protein of meats needs more water than sugars, and fats metabolize better with an abundance of carbohydrates—hence candy. Moreover, hard candy is converted 60% into water during metabolism, thus adding a small amount of liquid to a man instead of taking some away. Army doctors say that fat men carry more fuel on them and stand a better chance of survival than thin men when shipwrecked.

Despite a rumor that Charms had cornered Army contracts for candy because they are square and thus waste no space in packaging, the Quartermaster Corps reports that practically every candy company in the country has a contract. Life Savers, Henry Heide, and Cracker Jack won the Army & Navy E this spring, and Hershey has had one since last August.

• Special Rations—Candy is included in every special ration issued by the military, partly for its morale value but chiefly because it is such concentrated energy. The Logan or D bar, original emergency ration, contains four ounces



THINK *before you* *travel*

HE is one in two million who every month board American railroad trains under military orders to ride away on sombre, terrible, necessary business — the business of America's salvation — the business of war.

To move these two million men each month in special cars and trains takes more than one-half of all the sleeping cars and one-third of all the coaches in the United States.

With what equipment is left the railroads must move individual servicemen or smaller groups traveling service-orders — soldiers, sailors, marines and coast guards on furlough — families visiting servicemen in camps — business-men and other workers on war business — those who can no longer use their automobiles — and every other sort of traveler by rail.

In all, the railroads today carry nearly four times the passenger traffic of 1939.

That's the score today, and Americans who know it understand why travelers sometimes have to wait at ticket windows or why they cannot always get accommodations when they want them.

Whether you travel this summer — and where — and when, are questions which you alone can answer—but answer them with your eyes fixed on the fighting fronts and with the needs of the armed forces in your mind.

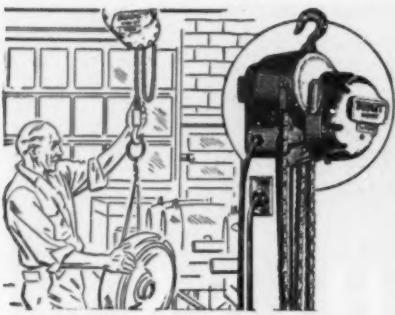
When your trip is necessary, you can help by asking the railroad ticket agents about the less crowded ticket trains on which the less crowded days and by traveling "light" and by canceling reservations promptly if your plans are changed.

The American railroads and railroad men will continue to do and railroad indispensable to winning the war.

AMERICAN RAILROADS



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'Budgit' Hoists never tire

A 'BUDGIT' electric hoist is just as strong and willing at the end as the beginning of a long day—or after months of three-shift work-days.

And the men and women who use 'Budgit' Hoists will never be tired, strained or worn out by lifting, for with a slight pull of the control, the largest size 'Budgit' lifts up to a ton.

On the production and assembly lines, in inspection and other departments of war industries, many thousands of 'Budgit' Hoists are taking the burden of lifting from the muscles (and minds) of workers.

They free the workers from all danger of strained backs, of rupture or the deadening loss of energy that comes from continuous lifting.

So they produce more and at a lower cost.

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'Budgit' Hoists are portable, electric hoists with lifting capacities of 250, 500, 1000 and 2000 lbs. They are priced from \$119 up. Hang up, plug in, use. For information write for Bulletin 356.



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of chocolate, sugar, skim-milk powder, cocoa fat, oat flour, vanillin, and 250 units of vitamin B₁.

Largest purchaser of food in the world, the Quartermaster Corps buys enough candy to give each man 18 pounds a year, including about 3½ candy bars per man per month, eleven one-ounce packages of hard candy, and eight packs of gum.

Quest for Crab

Consumption figures are great enough to point the way toward a new fishing and canning industry after the war.

The king crab of the Bering Sea cost the U. S. \$27,000,000 in money paid to Japan for canned crab meat between 1931 and 1940. War has ended that business, and peace is expected to bring a new fishing and canning industry for U. S. money and skill to develop. This year, for the first time according to the Dept. of Interior, the king crab will be canned commercially by Americans. Average annual consumption of crab meat has been 2,000,000 lb. imported canned, 1,650,000 lb. of domestic fresh, and 100,000 lb. of domestic canned. Japan has supplied the U. S. with 78% of our imports of canned crab for the past ten years.

• Spring and Summer Best—Male king crabs have an over-all spread of 5 ft. to 8 ft. and weigh 15 lb. or more. Yield of meat is 20% to 35% of live weight so that 6 to 15 crabs are enough to fill a case of 48 cans of 4 lb. each.

Fishing is best conducted during the spring and summer months when the male crab is in prime condition and close inshore. Male crabs moult in the late winter and are no good for canning in this condition. The mating season in spring finds king crabs in the shallows with the smaller females, but later the males move out alone to deeper waters.

• Japanese Surly—For several years before the war, Japanese crabbing vessels caused a storm of protest from Alaska because it was believed that they were not only poaching in American fishing waters but also making military studies of the Aleutian Islands. These Oriental fishermen were a surly lot who allowed no Americans on their vessels and told nothing about their fishing methods, so hopes of a new U. S. industry are based on a two-year survey made by the Fish & Wildlife Service of the Dept. of the Interior.

Bad weather conditions, absence of sheltered bays, lack of fresh water, and the need to avoid competition with the red salmon season in Bristol Bay (page 72) are some of the obstacles to be faced after the war. Biggest crab populations



King crab fishing in Alaskan waters-dominated by Japan before the war is scheduled to become an all-American industry after the shooting is over.

are believed to be in the Bering Sea, south of the peninsula in Pavlof and Canoe bays, around Kodiak Island, and in lower Cook Inlet. Shelter north of the peninsula in the Bering Sea is scarce and Port Moller, the best harbor, is so far from the fishing grounds that floating cannery may be the best solution to the problem of packing.

• Advantages Afloat—Floating cannery offer several advantages. King crabs must be kept alive until they reach the cannery. They die within a few hours unless they are kept wet and freed of their own excretions. Crabs migrate as much as 80 miles, and a floating cannery could follow.

Gear for catching crabs is the mobile otter trawl which catches everything in its way. Tangle nets require more initial equipment in netting but prove more effective when the location of the crabs is known. Such nets might cost \$5,000 where a trawl net would be about \$2,000.

DEHYDRATING CHEDDAR

Another experiment in dehydrating cheddar cheese which promises that its bulk can be reduced to two-thirds without loss of fat is reported by the U. S. Bureau of Dairy Industry which has applied for a public service patent. The Lend-Lease Administration, which should be interested, has taken a show-me attitude. The new process dries grated cheese at room temperatures so that fat is sealed in the case-hardened particles. Natural cheese contains 36% water. It is claimed that the new process reduces water content to 3% without loss of fat.



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Chrysler Airtemp machine tool refrigeration keeps coolants at the desired temperature, allowing the machine work to continue at a rapid wartime pace.

Airtemp temperature and humidity control speeds war production of aircraft engines, precision optics, plastics, shells, rubber, aluminum parts, plane sections, aircraft instruments, gauge blocks, munitions and many other tools of war.

Many military and industrial applications of temperature and humidity control are portrayed in a new booklet, "Chrysler Airtemp At War". Send for your copy . . . it may suggest profitable, new production aids for your plant.



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Electrical Equipment—Weapons and Tools

From miniature motors to mammoth generators, from tiny detector tubes to great broadcasting stations—everything electrical is essential to our war effort

AS this editorial goes to press, newspapers and radio news commentators are telling the dramatic story of the blasting of two mighty Nazi power dams. Floods are sweeping down the Ruhr Valley, Germany's most vital munition production center. Two vast networks of industrial activity lie inert, for the great generators that had fed power to hundreds of plants producing war goods for Hitler, today stand idle. This daring raid will go down in history as one of the most, if not the most devastating of the entire war. It has destroyed two great sources of power, stopping the wheels in hundreds of plants and throwing into darkness thousands of factories and homes.

This epoch-making raid by the R.A.F. brings home to us the vital importance of our own power resources, those colossal generators from which flows the current that turns the wheels of our great industries, illuminates our factories and homes and runs our electric railways and subways. It makes us realize how dependent we are on electricity and how important is the part of those manufacturers who produce the electrical equipment that makes possible its generation and use.

Beginning with Thomas A. Edison, the inventive genius of electrical manufacturing men has devised more and more efficient ways of generating the current, better and better means of transmitting it and of applying it to do thousands of jobs quicker and better.

The products of electrical manufacturers have become so completely an essential component part of every industrial, business and domestic activity that our economy and our war effort could not go on without it.

In days of peace the laboratories of our electrical industry gave us radio, fluorescent lighting, infra-red drying, precision process-control, telemetering, split-second circuit breakers and many other things that border on the miraculous.

Today their facilities and their genius are devoted to an all-out war of wits with Axis scientists and production men.

Electricity plays a significant part in this war . . . from the "walkie-talkie" that brings support to hard-pressed outposts, to the mammoth motors on the battleships. While many electrical developments today are cloaked in secrecy, the nation will enthusiastically applaud these electrical manufacturers when the curtain is lifted.

The far-reaching importance of electrical instruments, apparatus and machines becomes evident when we consider that over 350 different electrical items go into combat vessels and that more than 170 go into a fighter plane. Most of these products are distinctly special in nature and are far removed from their civilian counterparts if, indeed, they have such counterparts.

To the civilian, a light bulb is something so standardized that every need can be filled by any nearby dealer. Our armed forces, by contrast, must have at their disposal

more than 400 distinct types of lamps. Some no larger than the head of a match, are so brilliant that they flash signals under a tropical noon sky. Others are built to withstand extremely low temperatures, vibration, shock and many other abuses to which they are subjected.

On planes, for example, numerous fractional-horsepower motors are used but the standard industrial motor is not suitable for this service. New records in low weight-per-horsepower had to be achieved involving extensive changes in design and production.

To prevent the light from instrument panels from impairing the vision of night fighters, ultra-violet radiation which activates fluorescent instrument dials was developed. As a result, the pilot may look out into the darkness after reading his instruments without the least effect on his eyes. How many precious air victories can be credited to this one development alone?

But, in general, the story of this industry's war work is much too blurred by military censorship to afford an adequate picture of its contributions. The factories and shipyards that are turning out war matériel tell a more complete story. Many of these have been built during the past two years. Others have gone through a complete conversion process. In every case, large quantities of electrical materials were involved.

In the broadest sense, there are three major jobs which this industry has had to do, in addition to equipping our modern war machine. It has had to supply materials for the vast expansion of our industrial system, keep every plant fully maintained, and provide the necessary equipment for the vital power and communication fields.

More than \$1,900,000,000 was spent for new industrial construction in 1942, and of this about 7% or \$140,000,000 was for electrical materials. New machine tools and other production equipment required an additional \$350,000,000 worth of electrical products. The conversion program called for another \$145,000,000 of electrical apparatus and supplies.

This total of over \$600,000,000 in itself would have staggered the electrical industry in a peace-time year. Yet, this record-breaking production was essential and had to be superimposed upon the direct requirements of the Army and Navy.

Industry depends upon electricity. Consider for a moment the effect of modern lighting upon war production. Industry enjoys levels of illumination and color quality that were undreamed of ten years ago. As a result, midnight shifts operate at daytime efficiency. As a matter of fact, many of the more modern plants have no windows at all.

Then there is maintenance. The failure of one single motor or feeder will stop a production line. Electrical manufacturers have had to stand at all times ready to

supply the heavy demand for the maintenance and repair parts that keep our industrial machine operating at top speed. Excess loads, 24-hour schedules and inexperienced production hands combine to shorten the lives of electrical equipment.

Electrical manufacturers have had to supply the greatly expanded needs of our power and communication systems.

New construction of all sorts — war plants, cantonments, war housing — has created a formidable need for additional capacity. Every element in our domestic economy has called for increased communication and power services. All this had to be superimposed upon the vast demands of our armed forces. The magnitude of this task is obvious but it is being successfully accomplished. Every old installation is functioning smoothly and every new one has been ready to function on exact schedule. There has been no failure either in our power or in our communication. Part of the credit for this performance belongs to the hundreds of manufacturers who delivered their products when and where they were needed.

This was not merely a problem of increasing production. These manufacturers had been depending on rubber, copper, aluminum and steel — all highly critical materials. For much of their non-military production they suddenly had either to find substitutes or practice the utmost economy and ingenuity.

Solutions to many problems were quickly found. Lighting manufacturers greatly reduced their use of steel by designing efficient, non-metallic reflectors. Wire and cable manufacturers expanded their use of synthetic insulation in place of rubber and they promoted the use of higher distribution voltages so that every ounce of copper would work more efficiently.

Steel is essential in apparatus that operates magnetically. There is no known substitute. But marked economies in its use have been achieved through the development of new alloys that are of increased magnetic efficiency. As a result, motors and transformers now consume substantially less steel than did units of equal capacity a year or two ago.

Electrical manufacturers have given our industries numerous new production tools. Infra-red heating tunnels, for example, have drastically reduced the time involved in production drying . . . in some cases from hours to minutes. High-frequency induction-heating has been spectacularly successful in the forging, brazing, hardening and casting of ordnance. Modern welding equipment makes possible speedy production with inexperienced labor.

America's production lines are being patrolled by electrical devices which eliminate human error. One million volt X-ray equipment looks through castings and points an unfailing finger at defects. An electronic flaw detector tests nonferrous drawn-metal tubing for imperfections.

Other electronic devices are counting and sorting the products of thousands of war plants. Precision controls regulate all sorts of processes, from aluminum production to armor plate annealing.

These are but a few of many examples of the way in which the magic power of electricity has been harnessed to the war effort. Back of every development there is at least one electrical manufacturer — more often many — who have pooled ideas and methods with no thought of royalties or dispute over cost allocation.

No story of the electrical industry would be complete that did not pay tribute to those manufacturers who have dropped their normal lines in order to produce special war products. Many appliance manufacturers fall in this

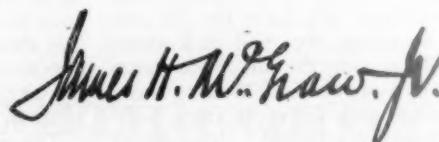
group. When war came, they did not stop to argue that civilian morale and big pay checks would demand a continued supply of their products, instead they quickly shifted to the production of war matériel and today they are deep in the manufacture of machine gun parts, aircraft sub-assemblies, and even gas-mask fabric. They have had to abandon their hard-won markets for the duration; but they are contributing mightily to permanent peace and a more prosperous world to which they will return when the guns are silenced.

This great industry has increased its production three-fold in two years — \$2,500,000,000 in 1940 to \$7,500,

000,000 in 1942. It has done this with all the zest of youth, for this is a young and a pioneering industry. Few companies in this industry are fifty years old; the majority are much younger. Top management in general is young, too, and many outstanding technical developments have come from the brains of men just a few years out of college.

The results of all its intensive intelligent work can be found in every factory, on every battlefield and ocean, and even in the flak-spotted air over Berlin. In a sense, the electrical manufacturing industry stands beside every soldier and every sailor as he goes into action. It has a place of honor it richly deserves.

And when this war passes into history, as it surely will, our soldiers and sailors returning to peace-time jobs, will find a life greatly enriched by electrical developments that were undreamed of yesterday.



President, McGraw-Hill Publishing Company, Inc.



CRISCO'S TRANSITION

One of the war's revolutionary packaging changes has lifted Procter & Gamble's Crisco out of its familiar tin can (above) in a step-by-step transition. WPB's metal restrictions first shifted the shortening into tin-capped jars (above right), but ensuing edicts forced substitution of paper caps (right). Before rationing, 70% of Crisco's sales were in the three-pound size; then almost overnight, 80% of the demand swung to one-pound lots when housewives found no point bargains in bulk buying. P.&G.'s glass consumption soared, and Crisco went into fiber cans (below right). From fiber cans, the next logical shift was into butter-type cartons (below left) which Procter & Gamble long had used in Canada.



SALMON OVER THE HUMP

Alaska salmon packers are over the manpower hump, and it appears likely that, even with only 66 of the 109 canneries operating, they will pack about 5,500,000 cases by the end of the season in October—about 200,000 cases above the average pack in recent years. Fisheries Coordinator Harold L. Ickes closed the other 43 canneries with his concentration order for the salmon packers (BW-Mar.13'43,p18), but each will receive his proportionate share of total output.

Manpower quotas in the Bristol Bay and Alaska Peninsula areas have been

filled from the 6,338 cannery workers and fishermen sent from Seattle to Alaskan canneries. Bristol Bay got 2,115 men, Alaska Peninsula 400. Quotas also have been filled at Kodiak, Cook Inlet, and Prince William Sound. The fisheries have found additional relief through recruiting Filipinos, Mexicans, and Negroes in California.

The concentration plan has paid dividends in conservation of shipping space. Northbound passenger transportation has been reduced from 10,000 persons to 6,000 persons for the season, and tonnage from 89,000 tons to 71,000 tons. In Bristol Bay alone, the saving was 2,300 persons and 9,823 tons.

Biological Crisis

Millions of bees died as result of hard winter, and you know what that means to the flowers—and to honey.

A serious shortage of honeybees is a subsidiary worry for government crop estimators who reported last week that 1943 prospects were the worst in the past three years. While some beekeepers lost 50% because of the long hard winter, average losses are estimated at between 15% and 25% compared with normal winter losses of 10% to 15%. In addition bees were handicapped by a cold wet spring—the kind of weather that prevents them from working.

- It's as Simple as This—Impact of the casualties will not be confined to honey and beeswax, though both are important wartime products. The loss will be felt in yields of orchards and fields which depend principally on honeybees for pollination. If you remember what your mother told you about the bees and the flowers, you know that the bee is the winged Cupid which carries the pollen from one flower to another, thereby consummating vegetable love affairs and assuring yields of fruit or seeds. Hence a shortage of bees means more sterility, shorter crops.

The bee losses are more the result of insufficient honey stores to carry the hives through the unexpectedly long winter than of freezing. But the cold also killed off wild bees and other insects important to pollination. Heaviest death rate was in the Red River Valley of Minnesota and North Dakota, but losses were severe from New England westward through New York, Pennsylvania, Michigan all the way to Iowa.

- Rush for Reserves—Result is a direct threat to apple and other orchards, to clover and alfalfa seed crops in this region. Beekeepers ordinarily leave 50 lb. to 60 lb. of honey for the winter ration of a 50,000 to 60,000 colony of bees. Last year, they may have skimped some because of the high price of honey and beeswax. Right now, they are making efforts to rush replacements from bee breeders in the South. During the spring, 1,250,000,000 bees were shipped to the North.

The extraordinary demand raised prices somewhat. A two-pound package containing 8,000 young bees and a queen now costs around \$3. Under favorable conditions a hive's queen (who does the egg-laying) may produce 100,000 young bees in a year. Ordinarily this would mean that the beekeeper could take a census of his bees in the spring and bring in enough new stock from the South to have full employment by the



Citation

*to the American Secretary... for
her dependable, loyal, and efficient services in time of war, which
are hereby recognized with grateful affection by her employers.*

We cannot all serve our country in high or dangerous or romantic places. And in a time when many offer their lives, the routine of office work may well seem humdrum.

Yet how vital it is . . . how important the endless grind of keeping things going! We venture to speak for all American industry in paying tribute and acknowledging our debt to the unsung millions of office workers whose daily jobs have been done so faithfully and so well.

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time the summer nectar season started. But normalcies are swept aside during war—even for the bees.

• **No More Trucking**—Main trouble is in shipping. In peacetime, the Texas or Georgia bee breeder gorged his bees with honey, and this feeding kept them healthy for three days, sufficient to reach their northern destination. Practice was for the buyer to drive South in a truck, bring back a load that would be distributed among other beekeepers in his region. This meant that the bees received skilled care in transit.

Such trips are out now owing to shortages of tires, gasoline, and men. Bees are usually shipped by express. Sometimes an overworked or inexperienced express messenger fails to provide the bees ventilation or to spray them with water. Often delays prevent the shipment's arriving in three days, resulting in serious losses.

• **Happy Arrangement**—The situation isn't so bad on the milder Pacific Coast. Here orchardists are expected to extend the use of tame bees as pollinators this year. Beekeepers are paid around \$3 to \$5 per hive to bring their bees to the orchards if bees are scarce thereabouts. The hives are placed one to the acre in areas where bees are plentiful and are left there during the blossom season.

It is a sweet arrangement for all concerned. The bee doesn't have to cover a wide territory to gather pollen or nectar. The beekeeper gets the benefit of more honey. And the orchardist gets a larger yield of fruit since the intense patrolling of the bees effects more thorough fertilization than if it were left to wild insects or the wind.

• **Serious Slump**—The average U. S. honey crop is 200,000,000 lb. In 1941, it soared to 226,000,000 lb., but last year it dropped to 179,000,000 lb. (BW—Feb. 20 '43, p102). Last year's slump was due to rainy weather which kept the bees grounded during much of the blossom period. This year is just about as bad in that respect, and beekeepers can't be expected to cheer over the ceiling price of 12¢ per pound f.o.b. the hive.

Because bee products are especially valuable in wartime and because the bee is the only pollinating agent that can be controlled by man, the War Production Board recognizes beekeeping as an essential industry. Honey is used in place of sugar, and the armed forces have found no substitute for beeswax for adhesive tape necessary in binding shell cases. The wax also is employed as a protective coating on airplanes, as a glamor coating in lipsticks and other cosmetics.

• **Importance of Beeswax**—Formerly the 4,000,000-lb. crop of domestic beeswax was augmented by annual imports of 5,000,000 lb. from South America, the West Indies, Egypt, and Africa. The last two sources are now shipping

none, since there is an agreement that England gets all African beeswax. Efforts are being made to bring in all the beeswax and honey that can be uncovered in Latin-American countries.

Exact figures are secret, but it is known that honey imports from Cuba and Mexico have risen several hundred per cent in the past two years. This honey goes to commercial bakers who use it in bread and pastries.

• And Now Bee Thieves—A phenomenon of the tight situation in honey is the appearance of the bee rustler. One of the trade journals reports that a mid-west beekeeper had 240 hives stolen this spring and warns that more of such crimes can be expected.

The interweaving of man's economic pattern with those of insects and animals is illustrated by this classic: In a country neighborhood having a lot of dogs, the pooches will chase away the cats or blockade them in their homes. Hence the cats can't hunt the field mice. With their worst enemy neutralized, the mice multiply and raid the honey in the bumble bee nests. The bees starve and aren't there next summer to pollinate the clover. This means a short crop of clover seed which ultimately is felt in a shortage of dairy feed and milk. All because the dog surplus upsets nature's equilibrium.

MILKMAN JOHNSON WINS

Detroit's Johnson Milk Co., which has flourished while fighting for its existence, has emerged the winner in the latest and perhaps most formidable threat against it.

Owner George A. Johnson has won a national reputation by underselling his door-to-door competition in his cash-and-carry dairy stores. He blithely overrode obstacles he claimed were placed in his path by what he calls the milk trust until last December, when his license to do business was suspended (BW-Jan. 9 '43, p40). State Agricultural Commissioner Leo V. Card ordered the suspension on the grounds that Johnson had not paid his farmer-producers for milk within 15 days after receipt, as required by law.

The milkman's temporary injunction against the order now has been made permanent. A circuit court held that the statute justifying the suspension was "harsh and unreasonable" and therefore invalid, because it did not take into account the possibility of reasonable and unavoidable delays in payment. The court also upset the law on the ground that it gave officials an "irrevocable" right to revoke a license.

Johnson has been doing business as usual by virtue of the temporary injunction. Obtaining of the permanent injunction developed little change of note in his present operations or in his plans for the future.

DON'T LET THESE BOTTLENECKS SABOTAGE YOUR WAR PRODUCTION!



1. AT THE SWITCHBOARD:

Interior telephone conversations waste precious time in receiving and originating outside calls. While using your 'phone to talk to someone inside your plant or office, important outside calls must wait for you, thus causing needless delays in addition to overloading your switchboard.

2. IN THE PLANT:

If an executive wants to give instructions to, or get information from someone in the plant, must that person leave his work? If so, valuable time is lost — time which adds up to man-hours forever lost to your production schedule. In war plants this is inexcusable.

3. IN EXECUTIVE OFFICES:

No executive has all key men within earshot at all times; and yet, for maximum efficiency, he should be able to contact them instantly. If you need data from one of your key men while using the telephone, must you send your secretary to get it, and hold the line until she returns?

EXECUTONE COMMUNICATION SYSTEMS

...overcome these obstacles to maximum efficiency. They keep telephones always free for outside calls. They enable you instantly to locate and converse with any member of your staff, whether at his desk or not. They keep the departments of your business closely coordinated, linking all key men with each other, independent of your switchboard. • They enable you to obtain vital data from any subordinate while talking over the 'phone with someone outside your plant. They make unnecessary many costly long-distance call-backs. • EXECUTONE is an important time-saver, attested to by over 78,000 users, many of whom find this equipment indispensable in meeting vital war-goods delivery schedules. In terms of greater efficiency, speedier output and man-hours saved, EXECUTONE COMMUNICATION SYSTEMS quickly liquidate their moderate cost.



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is the first and only Atlas giving all the details relating to each State in a section by itself—and arranged in just the manner that business men have wanted.

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PRODUCTION

More Steel If—

Coal supply is only visible threat to goal of a million more tons under Byrnes' order; WPB sees no shortage of ore, scrap.

Only visible threat to War Mobilization Director James F. Byrnes' order to step up steel production by 1,000,000 tons in the third quarter of 1943 (BW-Jun.12'43,p5) is the possibility of further interruption of coal supply. Apart from this uncertain factor, WPB officials are certain that the added 1,000,000 tons will be turned out.

Here's how:

By getting labor and management to pull together. This will mean quicker heats and output of steel in the open-hearth furnace. WPB officials have conferred with steel executives and Philip Murray, president of C.I.O., to stage a drive for harder and faster work.

By a green light on priorities. This has been granted. As a result, the expansion program will be hopped up. Many openhearth units for some time have been almost ready to go into production, but completion of construction has been held up by lack of material. About one-third of the additional steel

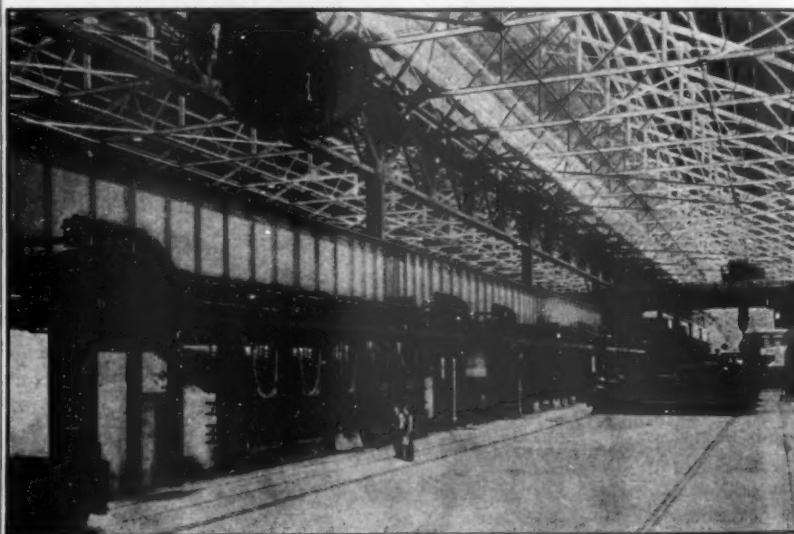
is expected to come from new capacity.

By conversion from alloy to carbon steel. This would be in line with the expanded program, most of which involves carbon steel. This steel will be chiefly for the Army and Navy, whose pressure for more tonnage is strongly backed by the White House. Other important claimants for a share in the increased production are the farm machinery industry, already given 300,000 tons of carbon steel, a substantial increase over the earlier allotments (BW-May.29'43,p15); lend-lease; Maritime Commission; and the steel-starved railroads.

By tighter scheduling. The Controlled Materials Plan, now upset by Byrnes' order issued at the first meeting of the Office of War Mobilization, proposes to make a closer checkup on actual needs and allotments.

By whittling down on inventories. This is a tough job in the face of vigorous Army-Navy opposition. WPB and the armed forces have haggled sharply. WPB is strongly suspicious that the armed forces have "hogged the ingot," while the Army and Navy insist they have been kept on a short diet.

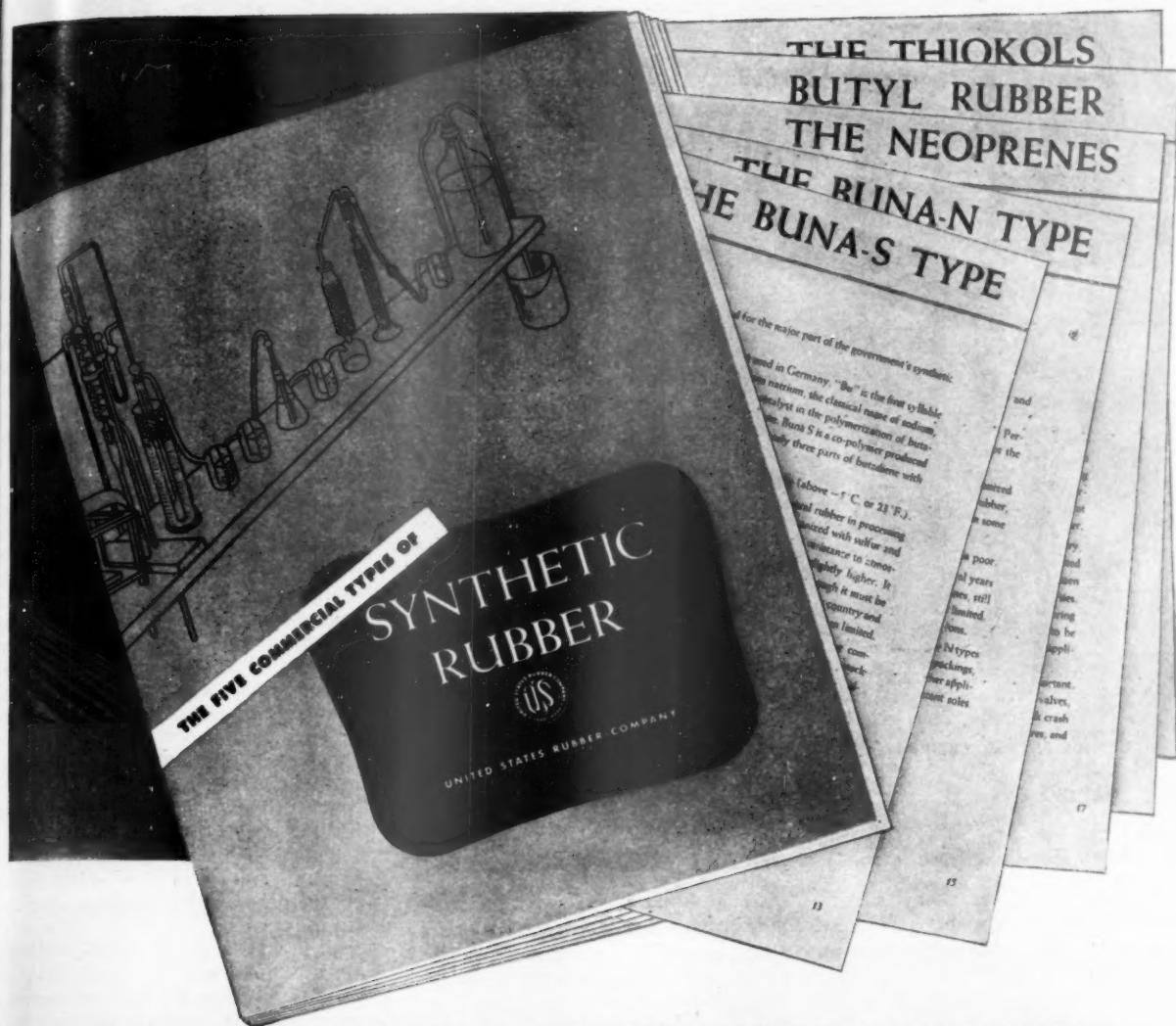
WPB says there will be no difficulty with respect to ore and scrap supplies. Stockpiles are sufficient to insure the production of an extra 1,000,000 tons in the third quarter.



STEEL'S INDEX BOOSTER

Two openhearth furnaces (above) poured the first steel this week at Carnegie-Illinois' new \$75,000,000 mill at Homestead, Pa. When all eleven of its 225-ton furnaces are blown in, the plant will produce 1,500,000 ingot

tons a year and will employ 3,000. From its 80 buildings, slabs, plates, forgings, and armor plate will roll into war channels. The 123-acre site of this huge Defense Plant Corp. mill was occupied, 20 months ago, by the homes of 2,700 families, two churches, and many stores (BW-Jul.19'41,p24).



WHAT IS SYNTHETIC RUBBER? HOW IS IT MADE? WHERE IS IT USED? HOW DOES IT COMPARE WITH NATURAL RUBBER? You'll find the answers in this new book

As the supply of natural rubber diminishes, undoubtedly more and more mechanical goods will be made of synthetic rubber...hose, belts, packings, molded goods, tank linings, and other rubber products used by industry.

Having worked in the field of synthetic rubber for more than twenty years, we know what each of the five types will do; what chemicals such as sulfur, carbon-black, or ultra-accelerators must be added,

and how to compound them. We work with all five types; use the type available that is best suited for the purpose.

You can get an over-all picture of the properties and characteristics of synthetic rubber in the new book recently published by United States Rubber Company. A request for "The Five Commercial Types of Synthetic Rubber" made on your company letterhead will be filled promptly. Address your letter to Dept. 22.

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Listen to the Philharmonic Symphony program over the CBS network, Sunday afternoon 3:00 to 4:30 E. W. T. Carl Van Doren and a guest star present an interlude of historical significance.

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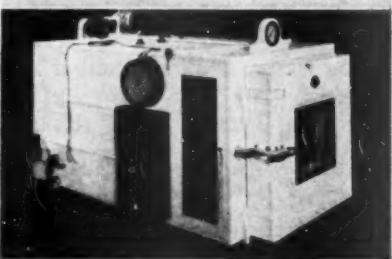
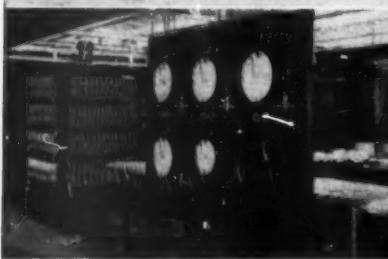
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Use of Foxboro Temperature-Humidity Controllers in smokehouse operation insures uniformly higher quality meat products.

Stratosphere test cabinets demand super-exactness in temperature-humidity control. Foxboro Controllers give it, even at -100° F.



Insulin Safeguard

Authorities move to see that black market wastage of glands doesn't endanger supply of medicine for diabetics.

The American Meat Institute is appealing to meat packers to channel animal pancreas glands to manufacturers of insulin and used the occasion to point out that black market slaughtering wastes byproducts many of which are as important to the war effort as meat. Instances are reported in the trade of unauthorized farm and alley slaughterers not only throwing away all of the less obvious values such as glands but also actually burying hides to conceal their misdeeds.

• Rumors Are Held Down—Diabetics evinced some alarm lest the pancreas drive mean a shortage of the medicine upon which they depend to keep themselves able to lead normal, useful lives. Assorted rumors cropped up in odd places but, fortunately, did not get into really active circulation. If ever diabetics should go on a rampage to buy and hoard insulin, the resultant ruckus in drug stores could make the late butcher-shop meat riots look like a lullaby.

Actual situation is that insulin is plentiful, and the purpose of the current effort is not to let supplies decrease. Eli Lilly & Co., largest maker, has more than a year's normal supply on hand. E. R. Squibb & Sons and Sharp & Dohme, the only other U. S. manufacturers of this product, likewise have comfortable inventories.

• Precautionary Step—Reason for asking the packers for more pancreas glands is to prepare for any possible demands from abroad as the war progresses. British production ordinarily depends on Argentine glands and is now greatly reduced because of shipping restrictions. Last winter lend-lease bought in this country 500 million units in a single order, a while earlier bought one billion units. The average diabetic takes 15 or 20 units a day. Hence, 14 billion units is a year's supply for 200,000 to 275,000 diabetics. The industry took these two huge orders in its stride, filled them out of stock.

Preparing the beef, veal, and pork pancreas glands for shipment to insulin manufacturers requires speedy, precise techniques in the packing house. The gland's insulin content begins shrinking at the moment of slaughter and, within 30 minutes, is too low for extraction unless the tissue has meanwhile been frozen. The job is so ticklish that only the larger packers have had enough at stake to repay installing the necessary equipment, and even such byproduct-

linded concerns as Armour & Co. have found this profitable only at their principal plants.

Five Tons Yield a Pound—Price of pancreas glands ranges between 15¢ and 36¢ a pound. A pound of properly prepared gland yields approximately 800 units; it takes five tons of glands, representing the output of 40,000 to 100,000 animals, to yield one pound of insulin.

Pharmaceutical users of various types of animal glands have been concerned lest packing-house worker shortages cause packers to slight some of those raw materials that require more than a normal proportion of labor. Big packers disclaim any such possibility, say that all byproduct revenue is too important for them to discard any of it.

Smaller Plants May Help—Best opportunity for increasing insulin output is to attract into pharmaceutical channels the many pancreas glands now used to make materials for the tanning industry, which require no such elaborate precautions in handling. Hope of the insulin makers and of the institute is that the current situation will induce packers of small and medium size to channel their pancreas supplies toward insulin manufacture.

Alcohol from Grits

Fermentation of ground wheat, rather than flour, yields dual byproducts of protein feed and goodwill.

Because corn for use in alcohol distillation is none too plentiful, many a distillery that used to make whisky or neutral spirits out of corn mash is now making smokeless-powder alcohol by fermenting granular wheat flour (BW—Apr. 17 '43, p42). This is tough on the livestock feeders and poultry men who depend upon distillers' dried grains—to the trade, d.d. grains—for the protein supplement in their feeding rations. Corn mash slops are worth drying out after distillation, but granular wheat flour has had the mill feed offal removed, leaving almost pure starch, and the resultant slops are so thin they go straight into the river.

Grind the Wheat—Because it is a subsidiary of Allied Mills, Inc., big feed miller, Century Distilling Co. could not overlook the farmers' acute need for stockfeed byproduct (BW—Feb. 27 '43, p15). Century started three months ago to experiment on pilot-plant scale with grinding the entire wheat grain to a grit and utilizing this grit for fermentation.

Today, Century's Peoria (Ill.) plant is grinding 6,500 bu. of wheat for daily use. The alcohol yield is just a few points less than that from corn. Screens and drying equipment ordinarily used

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and manpower will win the war*

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"I NEVER REALIZED until after you enlisted what a lot of work you took off my shoulders. Not that I minded your joining up, but I haven't been able to hire anyone capable of handling your job. And I can't even get any of our old-timers to share the load. What with our stepped-up war program, we're all so swamped with details that we can't even do justice to our own work."



"MR. PARKER, here's a suggestion I picked up at Training Center that may help all of you handle more work: put things down in writing. Hammermill's new book is full of ideas on how to organize work, dispose of details, clear time for extra jobs. It may help you solve your manpower problem."

Losing experienced office help?

Help yourself and help the war effort by "multiplying" the manpower you have left. Hammermill will help you find the ways to do this. In addition to its major wartime job of delivering the paper America needs on the war front and the home front, Hammermill is prepared to give you practical, timely ideas on how to use that paper to help you solve your manpower problem. You'll find those ideas in the new book offered below. Send for it.



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"Recipe for an Orderly Desk," new little book by William Feather, business writer, shows how to organize your work, get information, pass it along, check results and responsibility. For your free copy, attach coupon to (or write request on) your company letterhead and mail it to Hammermill Paper Company, Erie, Pa. Dept. BW-6-19.

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Off the line—ahead of time! "See-ability" through modern lighting saves time in assembly, inspection, and final test.

Build motors faster

Motors are coming off the lines, faster and faster... each a promise of Victory—ahead of schedule. • To insure the success of this vital war work, millions of Westinghouse Mazda lamps are needed daily—needed to provide better "See-ability" for all our workmen in foundries, machine shops, in production and inspection departments everywhere! To make these lamps available, we must draw upon limited supplies of nickel, copper, tungsten. • That's why it is necessary to ask all users to conserve their lamps, to help stretch further the nation's supply of critical materials. Westinghouse Electric & Manufacturing Co., Lamp Division, Bloomfield, N. J.

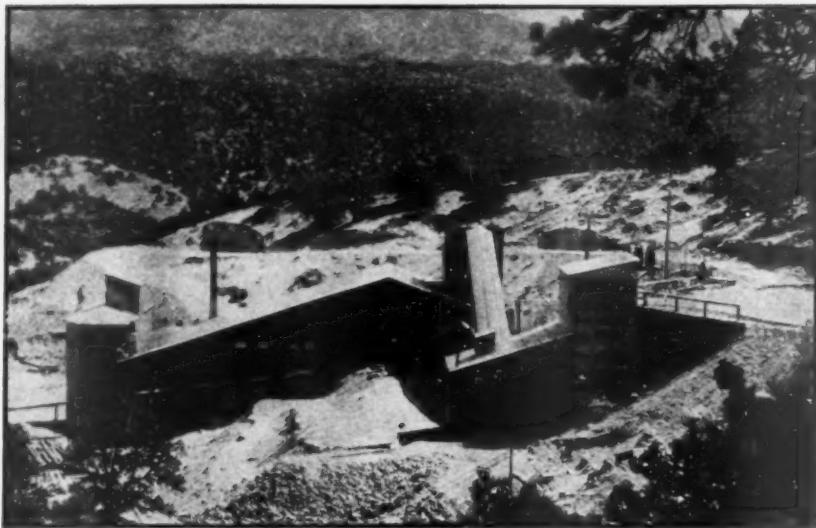


CONSERVE.. Use lamps where "See-ability" counts most

Be sure you get the most out of every lamp you own... (1) keep lamps and fixtures clean; (2) properly position all lighting; (3) check your entire lighting system. Your local power company will be glad to help you. For additional suggestions see the new 32-page booklet, "Sight for Victory" prepared by the National Better Light—Better Sight Bureau. Write Westinghouse for your copy today or ask lighting representative.

Westinghouse
MAZDA LAMPS

FOR GREATER "SEE-ABILITY"



WESTERN AID

Western mines stepped up their fluorspar production from 34,000 tons in 1941 to 55,000 in 1942 (accounting for most of the national gain from 313,000 to 337,000 tons); this year they are asked to jump to 95,000. It's up to them to help the country's main producers in the Kentucky-Illinois field provide the mineral essential as a flux in steel making, for turning out artificial cryolite required in reduction of bauxite for aluminum, and for production of hydrofluoric acid that is used in the high-octane aviation gasoline process. Driving toward the raised

goal are mills such as Kramer Mines Co.'s new one of 25,000-ton annual capacity near Salida, Colo. (above). And in nearby Poncha Pass, a brand new ore deposit raises chances of the goal's achievement. Miners drill powder holes in surface veins with jack-hammers (left). Ore is ground to dust in the ball mill and then goes into the classifier (right), and finally through flotation cells, thickener, sorter, and dryer before emerging as a flour-fine powder. Another new mill is that of the Zuni Milling Co., Zuni, N. M., with 35,000 tons capacity. Main problem now is the manpower to get the ore out of the ground.



for salvaging feed content from corn slops can be used for recovering the wheat protein material.

• **Higher d.d. Yield**—The wheat grits yield in d.d. grains about 17½ lb. a bushel, representing 26% of the bushel, as compared with 14 lb. to 15 lb. a



bushel of corn. Protein content of the d.d. wheat grains ranges upward of 30%. There is little or no difference in the dollar return to Allied between using granular flour and whole-wheat grits. But the grits yield a tonnage of d.d. grains that helps the feed program.

Built on Scrap

Glass firm finds wartime aid in salvage operation which recovers everything of value from aircraft plant sweepings.

When building restrictions put a dent in demand for glass, some new line of activity, helpful in the war, was sought by the Southern California Glass Co., Los Angeles.

• **Automatic Process**—After a year of development, the company has set up an aircraft service division to which tons of floor sweepings and machine cuttings are hauled. The sweepings contain everything dropped on the factory floor by aircraft workers. These go through a series of machines which screen, separate, and size thousands of parts automatically. Then materials are sorted on belts by girls.

One machine, developed with Lockheed's encouragement, passes bolts and screws before an operator, who sees them enlarged several times on a screen, spot defects, presses a key and drops them the rest going on to a series of sorters operated by solenoids for automatic sorting by size and type.

• **Saves Time and Parts**—Machine-sorting saves man-hours in the aircraft plants and often breaks bottlenecks. When a shortage of certain parts looms up, and those parts are known to be in the sweepings, they can be recovered in a couple of days by machine-sorting.

Sorting is paid for in a percentage of the cost of recovered parts. For one Los Angeles aircraft plant, 18,000,000 parts were salvaged last year. Everything down to aluminum dust is returned.

HEMP PAPER AND CLOTH?

Whether hemp growing can be made more profitable by using the stalks to make paper and cloth is being investigated at the Kentucky Agricultural Experiment Station. Hemp burds, or the stalks left after the fiber is removed, have been wasted. Thousands of tons of this material (together with hemp leaves and flowers that might possibly be used in marijuana cigarettes) are destroyed in Kentucky every spring.

Now research chemists at the experiment station in Lexington are analyzing hemp stalks and comparing their constituents with those of flax. Flax is now being used to make cigarette paper.

Analyses made at the experiment station show that hemp stalks have more crude fiber and less ash than flax, which would seem to make hemp superior to flax for paper and cloth. Hemp stalks are 67.86% crude fiber, as compared with the 56.64% crude fiber content of flax.



Where will help come from...?

NO MATTER what foreign land a man fights in, no matter which of the farthest seas he sails, there's one direction—and only one direction—he can look to, for the aid he needs in fighting. That direction is *homeward*.

In no other war in history has the man at home played such an important part. The arms to fight with, *enough in time* to give our men a fighting chance, must be produced at home. The ships to carry them, and naval craft to guard them adequately, must be produced at home. This is a total war, and that is why it is vital that each man at home produce as much as he can, *without interruption or slow down*.

There is one kind of industrial slow down that we can and should prevent ... the slow down caused by failure of

the valves that control power and production fluids in a plant.

The way to prevent such a slow down is to *avoid valve trouble before it starts*. Keep the valves in your plant operating continuously, by inspecting them regularly. Renew worn parts before a valve can destroy itself. When valves must be replaced, have the new valves selected and installed by experienced men. Above all, train new

workers to operate and maintain valves properly.

Jenkins Engineers are ready to assist any management in developing a practical program of valve conservation.

Reprints of this advertisement are available for display in your plant.

Jenkins Bros., 80 White Street, New York, N. Y.; Bridgeport, Conn.; Atlanta, Ga.; Boston, Mass.; Philadelphia, Pa.; Chicago, Ill.; Jenkins Bros., Ltd., Montreal; London, Eng.



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NEW PRODUCTS



Photo shows newly assembled aircraft engine on way to test call

HISTORY REPEATS

World War I stimulated rapid advances in material handling. Facing a need for increased production and a shortage of manpower, the war industries adopted the then new lift-truck-skid method on a large scale.

Its soundness was rapidly proved. It moved materials by power in larger units and at greater speeds than was possible by hand, and it also saved the time formerly required to load and unload. So successful was it that non-war industries anxious to avoid being left at a disadvantage, rushed to adopt the same method as soon as peace came, and they were able to obtain the equipment.

World War II has created unlimited demands for more production in face of even greater shortage of manpower. This time the war industries are completely sold on the latest industrial-truck handling methods and grab every truck available. And, when present priority controls are no longer necessary, it is to be expected that non-war industries will do the same to insure their post-war competitive position.

FOREARM WITH AVAILABLE INFORMATION

For handling supervisors in both groups who have not yet received our Material-Handling Handbook, a few copies are still available.



THE INDUSTRIAL TRUCK STATISTICAL ASSOCIATION

208 SOUTH LA SALLE STREET • CHICAGO, ILLINOIS

MEMBERS—Truck Manufacturers: AUTOMATIC, BAKER, CRESCENT, EASTON, ELWELL-PARKER, MERCURY AND YALE;
Batteries: EDISON, EXIDE AND PHILCO; Battery Charging Equipment: ELECTRIC PRODUCTS AND HERTNER.

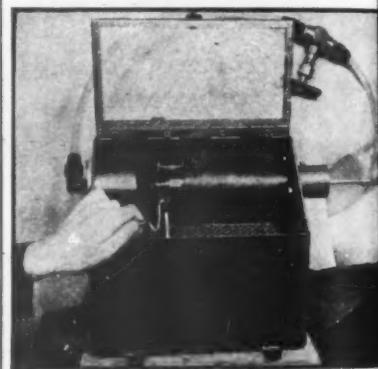
Synthetic Rubber Reodorants

Smells which arise from some of the synthetic rubbers during processing and curing promise to be calmed and controlled by a new series of benign odors formulated by Givaudan-Delawanna Inc., Industrial Aromatics Division, 33 W. 42nd St., New York. They work by masking the malodor on the general principle, used in paint deodorizing, adding an odor to kill an odor.

Thiodor No. 1 is the name of the deodorizing odor, or the "reodorant," for Thiokol-N (reodorants tend to give their own characteristic aromas to products). Parador A, B, C, and D are the designations for reodorants developed for calming down Buna-N, Buna-S, Butyl, Hycar, and Neoprene, though not necessarily in that order. Others will be developed to meet special problems. The Paradors have been found effective in concentrations as low as 0.1% of the synthetic rubber mix; Thiodor requires heavier concentrations for maximum efficiency.

Bearing Washer

Every part that goes into gyroscopic airplane instruments, such as directional gyros and gyro-horizons, must be meticulously clean. Particularly is this true of the little ball bearings in which the roto-



whirls at 40,000 r.p.m. The tiniest particle of dust, rust, or other abrasive might upset its accuracy or stop it altogether.

Bearings are washed before final assembly in one of the important airplane instrument plants by several units of a special new Bearing Washer which has been worked out for it by American Foundry Equipment Co., Metal Washing Division, Mishawaka, Ind. Business parts are a solvent container, a solvent filter, a small electric pump, a spray, a bearing holder, and a delivery chute.

A girl operator slips a bearing over a holder and closes a transparent cover. By twirling a knob on the outside, she

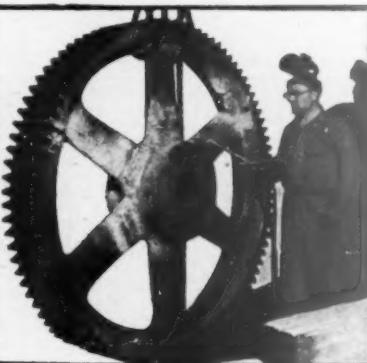
Best for a Thousand Uses . . . Copper.

Countless examples prove that the unique properties of copper and its alloys make these metals indispensable to man in time of war and peace alike.

Ordeal by Sea Water

To builders of stout ships, copper, brass and bronze have always been traditional metals because they so ably resist corrosion by salt water. But something even better was long needed for ship condensers, which must cope with increased corrosive action resulting from the contact of cold salt water with heated surfaces.

After years of experimenting, a copper-nickel alloy was determined to be the most effective. But such alloys were difficult to work . . . could not be produced in quantity with existing machines. So, anticipating expanded needs of the U. S. Navy, The American Brass Company installed special equipment, and in the '30s perfected a better way to produce copper-nickel tubes.



RX: OXYGEN, ACETYLENE, BRONZE

This rod is one of a group of copper alloy rods made by The American Brass Company for every bronze-welding purpose. In countless instances, they are saving invaluable production time in war industries when breakdowns occur.

Roof Proof

In 1747, the congregation of old Christ Church in Philadelphia decided on a roof that would protect the rebuilt edifice from the ravages of storm and sun for so long as the structure endured. Today, almost 200 years later, the oldest copper roof in America is still giving the rustproof, corrosion-resistant service that makes copper and its alloys unsurpassed for durability.

Utility. Metallurgical research down the years has developed new and better copper alloys. Result: These metals are as indispensable to modern civilization as they are in the fight to preserve our freedoms.

Two-Way Saving

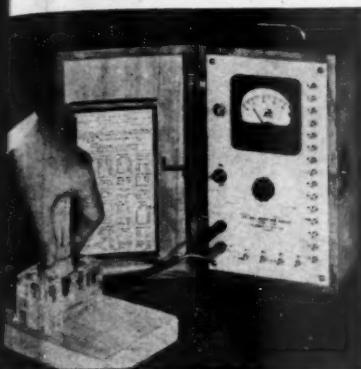
Fortunate is the homeowner who agreed with his architect and selected brass pipe or copper tube for water and heating lines; copper for sheet metal work; bronze for hardware and screens. Today he can invest in more War Bonds, because his is a money-saving home. Rustproof, durable copper and brass reduce the cost of home maintenance.

Likewise, the bonds that are saved today will help to build many a better home tomorrow. The future is bright for the building industry, and War Bonds are helping make it so.

poses all surfaces of a bearing's races and balls to a powerful cleansing spray solvent and delivers the clean bearing without finger contact through the chute into a lintless, grit-free bag. The present units handle bearings from $\frac{1}{2}$ -in. to $\frac{1}{4}$ -in. outside diameter, but the manufacturer is prepared to furnish washers for the larger bearings that are used in motors, machines, and other mechanisms.

Contact Moisture Gage

With a Kaydel Moisture Gage and a new Kaydel Pressure Contactor, both



products of Hart Moisture Gauges, Inc., 126 Liberty St., New York, the moisture content of thin wood, plywood, veneer, paper, cellophane, plastic, and other organic substances is being determined quickly and without any surface marring whatever in a number of industrial and laboratory applications. The contactor is a small block of transparent plastic topped by a handle and equipped with electrodes on its under side. The electrodes, which are so designed that they will not even mar the finish of the finest piano, are set closely together for the testing of small as well as large surfaces, flat or cylindrical.

Since the whole outfit weighs less than 8 lb. and is operated by dry batteries, it can be carried anywhere for tests. You simply press the contactor against the material to be tested and note a dial reading which indicates the material's resistance to the passage of a small electrical current. You then lift the contactor and touch it to a series of studs on the instrument panel. Percentage of moisture is shown by a marking on the particular stud that gives the same dial reading as the material itself. Also available are contactors equipped with conventional penetration points of varying lengths for testing thicker materials or for checking the findings of the pressure contactor.

Rubberless Sealing Tape

In 1935, the Chicago Show Printing Co., 2635 N. Kildare Ave., Chicago, originated Mystik adhesive for self-ad-



U.S.S. BOISE

This constant search to provide the best for our ships has paid dividends in World War II. The U.S.S. BOISE, for example, was equipped with condenser tubes made by The American Brass Company. While engaged in sending six Jap warships to Davy Jones' locker, she herself took a terrific pounding. Despite her wounds, she limped gallantly home under her own steam.

Fractures Healed Fast

With a crash like thunder, the gigantic press punching out cups for shell cases faltered and stopped. A huge gear was cracked . . . and months would be needed to replace it. Meanwhile, vital ammunition . . . unproduced.

A hurry call brought into action the Hebler Welding Company of Buffalo. After 55 man hours of repair welding the gear was as good as new . . . the machine resumed its steady song of production. 125 pounds of Anaconda Low-Fuming Welding Rod did the trick.

Published in the interest of a better informed war effort by

THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut

• Subsidiary of Anaconda Copper Mining Company



KARDEX PRODUCTION CONTROL

is helping

RADIO CORPORATION OF AMERICA

Victor Division



Beat the Promise

WITH "FACT-POWER" ON THE FACTORY FRONT

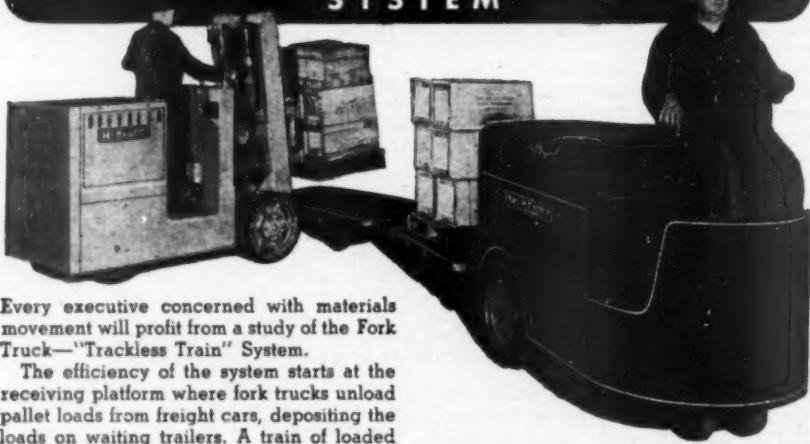
Kardex Production Controls
Kardex Procurement Controls
Kardex Personnel Administration
Kardex Progress Controls
Kardex Tool Crib Controls
Kardex Machine Load Controls
Kardex for every production problem

Serving America's Victory Drive

REMINGTON RAND INC.



Maximum Handling Efficiency with the FORK TRUCK—"TRACKLESS TRAIN" SYSTEM



Every executive concerned with materials movement will profit from a study of the Fork Truck—"Trackless Train" System.

The efficiency of the system starts at the receiving platform where fork trucks unload pallet loads from freight cars, depositing the loads on waiting trailers. A train of loaded trailers is then hauled to storage by a tractor. At storage, the tractor is uncoupled and sent on its way. A fork truck unloads the trailers, stacking the loads to ceiling heights. This same high efficiency prevails in handling

through process, to finished storage and in shipping.

For detailed information on Mercury Trucks, Tractors, and Trailers, request Bulletin-230.

MERCURY

The Mercury Manufacturing Company

TRACTORS
TRAILERS
LIFT TRUCKS

4146 South Halsted Street, Chicago, Illinois

herring advertising specialties, such as window cards which strip cleanly from glass after use. Since the original formula was based on rubber, the coming of war forced the company's research staff to seek and find an adequate substitute.

Upshot is not only an adhesive which sticks as tightly and strips as cleanly as before, but also a new line of Mystik Pressure-Sensitive Cloth Tape which is reported to set up new standards of water-proofness, adhesive power, and stripping ability. Since it is nontoxic, it can be used for sealing packages of food, medicine, blood plasma, etc. Since it withstands salt spray, it can be used to seal ordnance equipment for overseas shipment. It is available only for war purposes at present in rolls of any width up to 36 in.

Crankcase Gaskets

Copper wire screening of 80 mesh is being coated with synthetic rubber by Goodyear Tire & Rubber Co., Akron, for the Detroit Gasket & Mfg. Co., Detroit, which manufactures the composite material into new Airplane Engine Gaskets. Though they have a thickness of less than 0.015 in., they are said to be "completely blowout-proof" in their job of sealing crankcases against the loss of oil by seepage. Applications to automobile engines and other mechanisms will probably have to wait until airplane production tapers off.

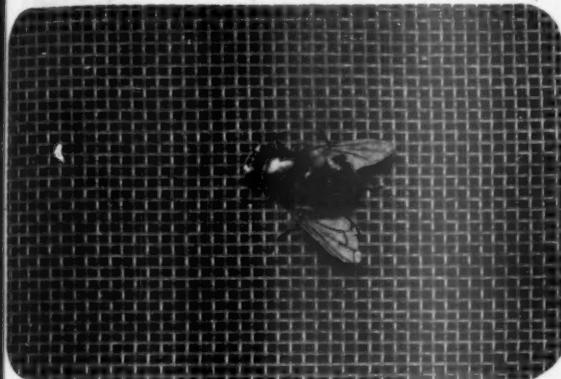
New Products Briefs

Also reported this week, not only for their interest to certain designated business fields, but also for their possible import in the postwar planning of more or less allied fields and business in general, are the following:

- Food—Potatoes, rutabagas, and possibly other root vegetables can be peeled quickly by scalding them in a brine solution (3.3 lb. of common salt to a gallon of water) at a temperature of 228 F. and washing them under a moderately high-pressure spray. According to the Western Regional Research Laboratory of the U. S. Dept. of Agriculture, Albany, Calif., which developed the process, the hot brine softens the cells adjacent to the skin and loosens it very thoroughly in much the way the skin of a tomato loosens when scalded quickly.
- Chemical—A new Gage Protector, developed by Lapp Insulator Co., Inc., Chemical Porcelain Division, LeRoy, N. Y., permits the use of standard, direct-acting pressure gages on pipelines and systems carrying corrosive liquids. A porcelain float, or piston ground and lapped to a precision fit, rises and falls in a porcelain cylinder. Pressure from the corrosive liquid is transmitted to the float and through a neutral oil to the gage.

What next- PLASTIC PENNIES?

1 It wouldn't surprise us. They're already making plastic tax tokens, and before very long there will be few things you *can't* make out of this magic new substance. Here at Taylor we get a preview of many plastic discoveries, because we supply the instruments that control their manufacture from basic materials to finished products...



2 Plastic fly screens are already on the market—as strong as steel and can't rust or corrode. Light-weight plastic bathtubs, that won't sag out of place, are on the way. Floors will look like wood—yet never need polishing. Many other inventions, now military secrets, will be made for *you* with Taylor's help after the war.



3 Meanwhile Taylor Accuracy helps make things like this substratosphere mask. Gives pilots a steady flow of oxygen and keeps 'em comfortable at 40,000 feet, with no metal to freeze to the face, no moving parts to ice and stick. Out of this may come—who knows?—a new idea for preserving food. Or a better mousetrap!



4 When you drive to China by way of the Alaskan highway and the ferry to Siberia, you can thank Taylor Accuracy for the view through the transparent plastic top. Equally exciting in their own way are the Stormoguides and other instruments Taylor is planning for your new home. Meanwhile, we make swell fever thermometers!



5 If you have Taylor Instruments in your plant, you'll be better set for postwar planning, because their flexibility and unit construction make them easily adaptable to new processes. For quick help on war production, call your Taylor Field Engineer! Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

MARKETING

Plenty of Clothes

OCR feels we'll survive another year without rationing, hopes release of civilian wool will end buying spree.

Down deep in its heart, WPB's Office of Civilian Requirements believes the nation can scrape through at least half of 1944 without clothes rationing. OCR is not issuing any written guarantees, but it feels the odds are piling up against disastrous shortages.

• In a Nutshell—Statistical documentation is available for OCR's semicheery outlook, but the mountain of figures can just as well be skipped for practical purposes. Nobody has succeeded in nailing down the future with a batch of mathematics, so any figures have to be loaded with ifs and buts. In a nutshell, the clothing situation amounts to this:

Wool and cotton stocks for civilian use are in relatively good shape after a year of piling up backlog. Furthermore, loom capacity is available, even if some juggling has to be done.

On the other hand, consumers are still buying furiously. This buying spree may get an additional impetus from the deterioration in laundry service (BW—Jun. 12 '43, p38). Worse yet, mills are continually running into manpower shortages, may never be able to fill their quotas for lack of men to operate the machines.

• What's to Be Done—OCR hopes to escape all but the manpower pitfalls by (1) increasing raw material allotments, (2) injecting special allocations into most-needed channels, (3) getting help from retailers in discouraging consumer hoarding, and (4) invoking, as a last resort, more simplification and elimination of less essential lines.

Most of these expeditives are now in process of trial. Civilian wool allotments have been more than doubled in the past ten days, and the semimandatory blending of wool with rayon and other fibers has been eliminated altogether (Order M-73, as amended), both because blending fibers are getting scarcer and because wool supplies are bigger. Hereafter, manufacturers of worsted products can use 70% of the wool they used in their base period (early 1941), while manufacturers of woolen products can use 50%. The doubling of wool allotments may not mean a doubling of end products (that depends on how much blending there will be on a voluntary basis), but in any event,

total woolen and worsted output will be increased.

• Freeze in Denims—Allocations are being set up to alleviate tight situations. Work clothing and underwear are two cases in point. To keep work clothing output at a sufficient level, certain looms making denim and similar products have been frozen—that is, their output must be devoted strictly to denimlike materials. For underwear, quotas of heavy-type yarns have been earmarked.

In a pinch, additional fabric for clothing (and other basic items) could be obtained by making further inroads on floor coverings, draperies, and upholstery materials. But this alternative has the nasty angle of bringing possible ruin to manufacturers and distributors who specialize in these items. Hence OCR would use such a restriction only as the very last resort.

• Voluntary War Models—Another possibility is the channeling of manufacture into "war models." This idea isn't as reformist as it sounds. It would merely mean that manufacturers would be asked to produce fabrics that (1) fall into middle price ranges, and (2) give the greatest output of yardage with the smallest use of facilities. Manufacturers complying with this proposed program would get a bonus of some sort—it could be either a price bonus or a raw-material bonus. In any event, the pro-

gram would not be made compulsory. Planning of this sort makes the clothing situation look better on paper than it has in months. It doesn't help the manpower situation, however, and that is the big X in the rationing equation.

• Doesn't Stop Hoarding—Nor does it stop consumer hoarding, although OCR is slightly less worried about that angle. Some big department stores—among them, Gimbel's—are cutting out incentive payments to clothing salesmen. Other stores are stopping some of their clothes advertising, are concentrating on patriotic themes. OCR feels that removal of blending regulations may give consumers more confidence in the quality of clothing, thus end some of the hedging against quality deterioration.

SNAG IN HOSE PRICES

To pacify an irate hosiery trade, ranking under price ceilings and grade labeling (BW—May 22 '43, p18), OPA amended the rayon hosiery price order (MPR 339) to allow wholesalers to clean out stocks of B grades at A prices until June 15, retailers until July 15. Since production of Grade B hosiery is precluded by WPB's conservation order L-274, Grade B prices applied only to stocks on hand May 15, and the amendment was calculated to unload all inventories at Grade A prices.

But realistic retailers, failing to catch the spirit of the price administration's blueprint, saw no profit in rushing distribution of Grade B hosiery when they

Nightmare for Retailers

Retailers grow faint at the thought of clothes rationing. Last week, at a special meeting in New York of the American Retail Federation (coordinating agency for the major retail trade associations), shopkeepers pooled their individual bogeymen into one huge ghost story. Here is what they collectively figure clothes rationing might do to them (if it ever comes):

(1) If rationing is on a straight point system—that is, if a dress costs X number of points regardless of whether it's a \$4 or \$40 dress—all the popular-priced lines will suffer. Consumers naturally would want the highest quality (as measured by price) to stretch points as far as possible. The shoe people already have gone through this experience in the rationing of shoes.

(2) If clothes are rationed on a dollar basis—that is, if each consumer were allowed to buy an estimated \$60 to \$70 worth of clothing per year—the high-priced lines would be driven

to the wall, and with them the fancy shops.

(3) If a combined point-rationing and price-break system were used, fewer stores would be eliminated, although all of them would suffer. The consumer would be able to buy either a few high-quality clothes or a greater quantity of cheaper ones.

• The Best Bet—Because of its greater flexibility, alternative No. 3 seemed to the retailers to look like the best bargain in a bad situation. On the other hand, it also looked like the alternative with the greatest possibilities for confusion.

Addressing A.R.F. members in a closed session, Arthur Whiteside, chief of WPB's Office of Civilian Requirements, neither challenged the ghost story nor confirmed it. He simply told the merchants what WPB has been saying all along: If the facilities to manufacture more fabric can be found, clothes rationing won't come; if not, rationing is a sure thing.

ould buy the same merchandise for 1% less on June 16, and for 32% less July 16. What's more, because sales are falling off under the impact of warm weather and cosmetic hosiery, retailers can't be sure of unloading Grade B hosiery bought now before July 15, when they are due to reduce prices by 12%.

So hosiery men once more are wafting their woes to Washington, and requesting postponement until Nov. 1 of the effective date for Grade B prices, but they aren't counting too much on another OPA reversal. The last two deadlines stuck.

Battle for Girdles

How to bolster milady's figure while rubber supplies dwindle is problem confronting the foundation garment industry.

Next week when the corset and brassiere buyers crowd the industry's semi-anneal market week in New York, they will not be primarily concerned with making America's feminine silhouette hourglass or pencil slim. Life has been serious for the foundation garment industry since war began, and its big worry is how to support the female figure in the style to which it is accustomed with drastically limited supplies—and no rubber except what stocks it has on hand.

Almost Rubberless—Girdles have had less and less rubber since March, 1942, when WPB halted production of both knitted and woven elastic fabrics. Manufacture of elastic thread stopped in December, 1941. Since then, manufacturers have stretched supplies, cut down on elastic pantie girdles, and conserved stocks in accordance with amended order L-90, which generally limits elastic inserts to a maximum of 36 sq. in. per garment.

Having eked out some 18 months' production from the stockpile, most producers have thus far not offered a rubberless girdle—partly because they hope the rubber director will yet find a way to allot some synthetic rubber for girdles but principally because designers have yet to find the equal of rubber's elasticity in fabric substitutes. There is no altering the fact that hip circumference is greater by inches when a woman is seated than when she is standing, and though knitted cotton and rayon may stretch, they won't contract again with the efficiency of rubber elastic.

"Retread 'Em"—This situation has led desperate manufacturers to urge repair services on retailers, many of whom have maintained such service departments but never pushed them. "If you can't sell girdles, retread 'em," says the Form-



—Illustrated above is the hydraulic TELEMOTOR and one type of hydraulic wheel house transmitter built for Webster-Brinkley's electric steers by **Kirsten**

- This unit is designed for the operation of contactor circuit of electrical steering gear—making possible an advantageous reduction in size.

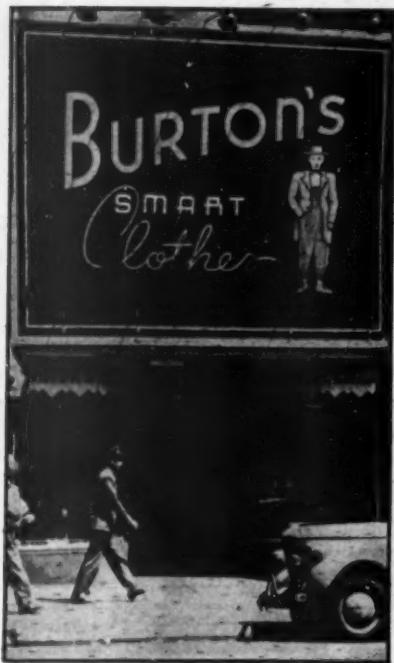
We are able to produce such equipment completely and with expedience because we have an outstanding staff of engineers...the right tools operated by skilled machinists...designers capable of creating a needed tool on the spot...our own non-ferrous foundry...an organization that operates smoothly.

We can help you with your problems in similar assemblies requiring machining to close tolerances; write or wire for particulars.

KIRSTEN PIPE COMPANY
3129 Western Ave. Seattle, Wash.

• For the duration—entirely devoted to production for the war effort.





QUICK CHANGE

Keeping a finger on the public style pulse is an important requisite of smart merchandising. When young dandies exhibited a tendency toward rear pleats, drape shapes, and stuff

fit Co. of Chicago in a current advertising and sales program. To sell the idea to the trade as a means of keeping corset departments in operation for the duration, Formfit raises the bogey of a disappearing market. Advertising in the trade press, the company asks retailers to remember how corsets almost passed out after the last war, and warns them to protect themselves now from another corsetless era.

One Formfit executive in a published article has gone so far as to state that "women can live without corsets, if they have to, and after the last war they did." Contradicting this is impressive evidence gathered by the Corset & Brassiere Assn. of America to show that women in general and war workers in particular cannot get along without corsets. This group has the argument of sales figures on its side to prove that the 'twenties were no corsetless era as the Formfit article implies.

• **From Corset to Girdle**—Total sales were only \$40,000,000 in 1914, according to the census of manufacturers, reached \$75,000,000 by 1919, and remained consistently above that figure throughout the following decade until the depression. What happened in the decade after the World War was a shift from corsets with bones and lacing to lighter elastic girdles.



cuffs, one Los Angeles merchant was quick to advertise his stock of zoot suits (left). Last week, the zoot-suited figure vanished from the sign. Los Angeles riots between service men and youths in extreme duds had sent the zoot suit into public distavor.

The fear that women donning slacks and overalls for war industry would abandon foundation garments has given way to a struggle on the part of the industry to provide for war workers' demands. Pantie girdles, which before the war were soft little roll-ons for the junior trade, now are available in size 44 waist with reinforcements.

• **Checkup on Uplift**—The Department Store Economist surveyed five war plants employing 1,000 women and found that many who had not worn girdles before going on the war job are wearing them now. According to a Charm magazine survey, all women workers in two Buffalo war plants wear girdles. In Chicago, of 53,723 business girls surveyed, all claimed to wear both girdles and brassieres, while 99% of industrial workers in two Cincinnati plants wear both girdles and bras. The survey also indicated that, on the average, women buy between two and four girdles a year, and more brassieres.

Industrial welfare directors and women's counselors in industry support the industry's cause, saying that corsets are essential for preventing fatigue, particularly in middle-aged women who have had children. After all, say industrialists, the labor supply today has to be put to work immediately, and there is no time for a period of training and exercise

in order to strengthen the muscles of new workers.

• **British Experience**—The dissatisfaction of women war workers in England with the British "utility garment," which was produced in an effort to satisfy the demand for girdles when rubber became scarce, is counted on by U. S. manufacturers to avert a similar mistake here. Many British workers secured medical prescriptions for expensive custom-made garments rather than accept the standardized utility foundation garment.

Because retailers usually have a higher margin of profit on sales of the corset department than on any other, they have been reluctant to stop customary promotion of these items, despite depleted stocks and repeated warnings from producers of the drastically curtailed supply.

• **For Health, Not Fashion**—Along with suggested restraint on promotion, manufacturers are trying to induce retailers to join their industry's campaign and advertise foundation garments as an essential to health rather than as an implement of fashion. Normally, corset promotion is more or less inconsistent with buying habits. Advertising is concentrated almost entirely on novelties and high style, although such items account for a small proportion of sales volume. For example, a few years ago when one of New York's largest Fifth Ave. shops featured the "wasp waist," the promotion doubled total sales in the corset department for about six weeks, but "wasp waist" garments accounted for not more than 3% of the volume. Today emphasis is shifting completely to health and antifatigue advertising themes.

To help bewildered retailers, an advertising guide is furnished to dealers by the Corset & Brassiere Assn. of America. Stores are urged to (1) stress the importance of proper fitting and to note the economic waste involved in over-the-counter sales later returned because garments don't fit; (2) point out what corsets "do" for women in assuring better posture and preventing fatigue; (3) propagate hints on how to prolong the life of garments (frequent washing—BW—Sep. 1942, p. 57—and expert repairing are suggested); (4) urge women to buy only what they need; (5) adhere to OPA ceiling prices; and (6) keep trade names alive in institutional advertising.

• **No Slide Fasteners**—The don't list is equally long. Retailers are asked particularly to avoid such statements as "No more Talons after this," or "This is a pre-L-90 style." Since the industry for months has been without slide fasteners and has had to get along on sharply curtailed steel supplies for other types of fasteners and for stays, there are few garments left for which such claims could be exploited.

PRIVATE ENTERPRISE—(continued)

New York's First Bank
Established 1784



Personal Trusts
Since 1830

"We Must Beware"

... said WINSTON CHURCHILL

"We must beware of trying to build a society in which nobody counts for anything except a politician or an official, a society where enterprise gains no reward, and thrift no privileges."

BANK OF NEW YORK

48 Wall Street — New York

UPTOWN OFFICE: MADISON AVENUE AT 63RD STREET

Commercial Banking

Executor and Trustee



**IT'S THE MEN
WHO MAKE THE ERIE!**

How to Make a Bed for a Railroad

YOU are looking at a "mechanical mole" regularly used to clean the ballast on the Erie roadbed.

This ingenious machine forces a cutting plate into the stone ballast to a depth of 8 inches or more. Up comes the dirty ballast, a rotary screen sifts out dirt and cinders, and a conveyor carries this dirt to the outside embankment. Then clean stone goes into place to give good support for ties and track—open channels for drainage.

Cleaning the roadbed is another step in Erie's program of efficient operation to insure fast, safe, dependable transportation. For a clean, well-kept roadbed means less vibration—smooth, easy riding. It is essential these days when America's railroads are doing their utmost in doing the world's greatest transportation job...and it's essential, too, in the peacetime job of tomorrow.



23,578 FREIGHT TRAINS DAILY

1,408,964 FREIGHT CARS DAILY

25,000,000 NET TONS DAILY

AMERICAN RAILROADS AT WAR

THE RAILROAD OF HELPFUL SERVICE

MACY'S, 1858-1919

Off the press this week is the eighth of the Harvard Studies in Business History: History of Macy's of New York. In exactly 500 pages, Ralph M. Flower (also author of The History of an Advertising Agency; N. W. Ayer & Son at Work) tells the story from founder Rowland Macy's early days as a whaler and a forty-niner through the impact of pricing problems in the World War on the world's largest department store. Harvard expects to publish another volume that will bring Macy's history up to date.

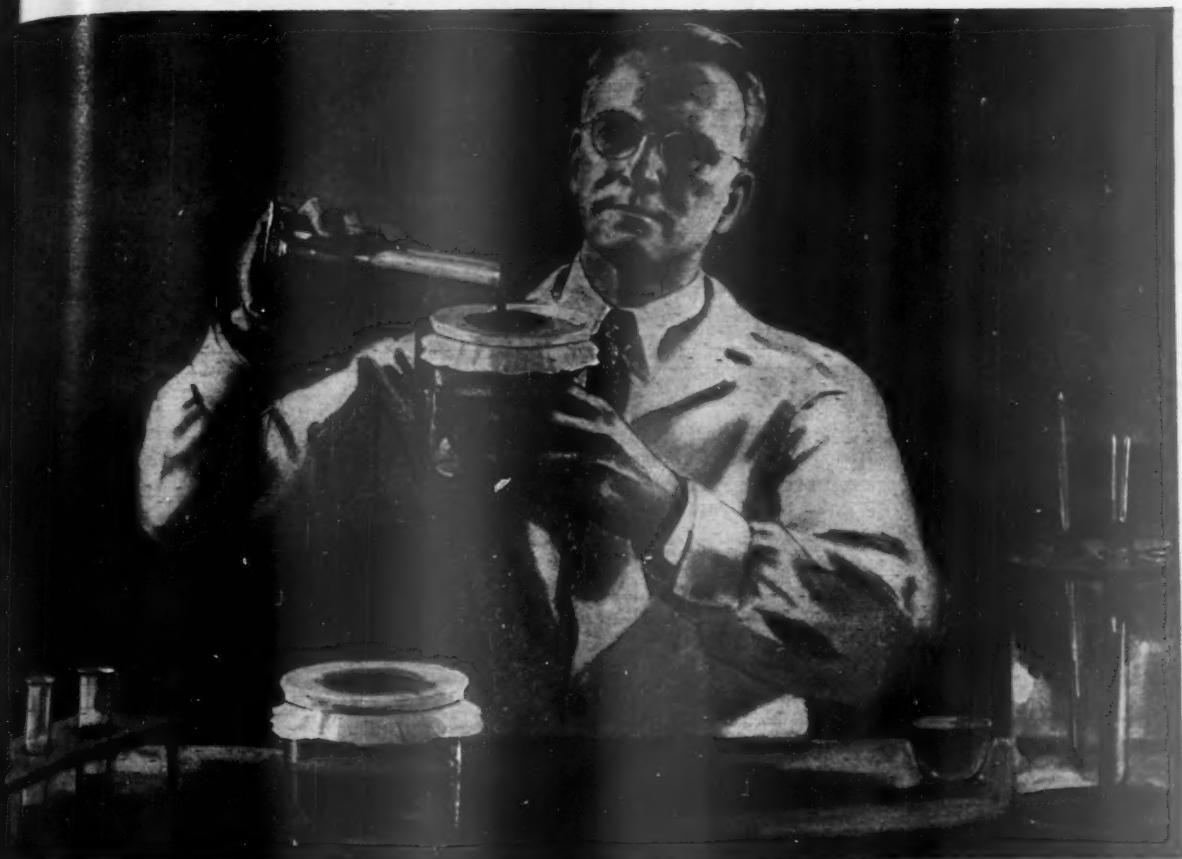
The volume devotes considerable space to the history of retailing both in Europe and in America, but the emphasis is always on R. H. Macy & Co.—and principally on its sales and advertising. Because these functions have been performed successfully, finance has not been a major problem. Neither was merchandise procurement in the period covered by the history (1858-1919).

To facilitate easy reading, the author has assembled most of the operating figures at the ends of chapters to which they apply; but to many executives and students, this data will be the most interesting part of the book since the publishers say such detailed operating



OUTDOOR ART

To get around shortages of poster paper, many British advertisers are converting outdoor displays to permanent oil paintings. Typical conversion of a Cheltenham hoarding (billboard) indicates effectiveness of the promotion art. The hoardings have metal surfaces that permit repainting many times.



A new fiber helps speed production of synthetic rubber

AMERICA's new synthetic rubber industry is beginning to produce. And hidden away among the many scientific marvels which have made possible this new industry is an interesting man-made textile fiber, Vinyon.^{**}

Vinyon earns its place in the synthetic rubber program by virtue of its amazing resistance to chemical attack. It makes a well-nigh perfect filter cloth for use with the strong solutions employed in making synthetic rubber. These filtration processes must be carried out on a continuous basis so that lost production time can be kept to an absolute minimum.

If you've ever seen what a strong acid can do to an ordinary fabric, you can imagine how long such a fabric would last in the filtering processes involved in the making of synthetic rubber. Before Vinyon, in many chemical processes the loss of production time for replacing filters was a serious bottleneck.

But Vinyon laughs at most of the strongest materials known to chemistry. Sulphuric, nitric, hydrofluoric acids,

aqua regia, caustic soda and potash—these and many other equally destructive substances can be successfully filtered, on a continuous basis, through fabrics of Vinyon. About the only deterioration noted in Vinyon filter fabrics in most cases is due to mechanical wear. Since Vinyon is a thermoplastic, however, the temperature of the solution must be controlled.

Right now, you'll find Vinyon filter cloths also used extensively in the making of explosives, high-octane gasoline, and many other vital war commodities. In fact, all Vinyon is today going into war uses. But in the future, you may expect this extraordinary fiber to contribute much to your daily life.

The Vinyon filter cloth, product of American Viscose research, is another example of the way fibers are today being "engineered" for their intended purposes. Out of this research program have already come many developments which have yielded benefits to American living and American enterprise. More will follow.

AMERICAN VISCOSE CORPORATION

Producers of CROWN^{*} Rayon Yarns and Staple Fibers

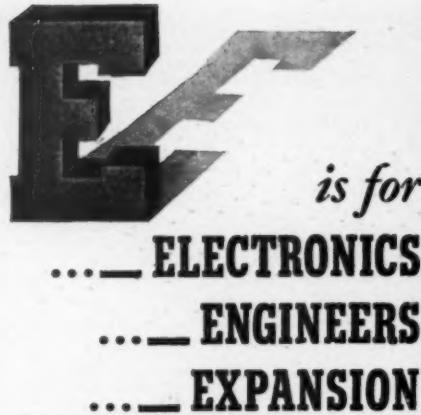
Sales Offices: New York, N. Y.; Charlotte, N. C.; Providence, R. I.; Philadelphia, Pa.

★ BUY UNITED STATES WAR BONDS AND STAMPS ★



**T.M.—C.A.C.C.C. *Reg. U. S. Pat. Off.

Copyright, 1943—American Viscose Corp.



ELECTRONICS...FELT parts, standard throughout the industry, shield against interference, absorb vibration, feed and wick lubricants...other uses as diverse as Electronics itself.

ENGINEERS... Design-Production-Research...find versatile FELT a ready alternate for critical rubber, leather, cork, and woven fabrics. In the airplane field, Weight Engineers approve "K" FELT because it is light and does not "grow" in weight, does not shift or collapse and is more economical and more efficient than any other satisfactory insulation on the market.

EXPANSION... Spurred by wartime necessity we have developed FELTS to meet new needs. For example, the Aerofelt line...S.A.E. FELTS coated with synthetic and rubberized compounds. Aerofelt saves weight and costs less than the materials it replaces in aviation and automotive industries.

ENTRAP and EXCLUDE... Filters of FELT, in respirators, exclude dangerous toxic fumes, mist and dust. Interlaced and interlocked fibres form a dense maze which entraps noise and heat and cold.

ESSENTIAL... Leading manufacturers rely on FELT washers, cut to precise specifications, saturated with oil and sealed within bearing assemblies, to insure efficient lifetime operation. FELT is essential...because nothing but FELT will hold oil always ready for distribution.

EXAMINE and EXPLORE... Send for samples, large or small...look into the properties and qualifications of this material of a thousand uses. Get to know it. As the most important FELT manufacturer we will cooperate with you in every way possible.

American Felt Company



General Offices: GLENVILLE, CONN.

New York; Boston; Chicago; Detroit; Philadelphia; Cleveland; Los Angeles; San Francisco; Dallas; St. Louis
PRODUCERS OF FINEST QUALITY PARTS FOR OIL RETAINERS, WICKS, GREASE RETAINERS, DUST EXCLUDERS, GASKETS, PACKING FELTS, VIBRATION ISOLATING FELTS AND INSULATING FELTS



SHOE RUN

Recovering from exhaustion, the nation's shoe retailers are taking weary inventory of their depleted stocks. Adopting a "waste not, want not" attitude, consumers who had neglected

figures, covering revenue and expense as far back as 1870 and a continuous series of operating ratios from 1888, have hitherto been unavailable for any concern.

ADVERTISING AT WORK

American industry has not abandoned its advertising campaigns under the impact of war. But occasionally big advertisers wonder just what war advertising is netting them.

On this score, the Assn. of National Advertisers this month offers reassurance. Results of a new survey of Public Sentiment Toward Wartime Advertising show that 63% of persons polled think advertising has done a good job of explaining how rationing works, 82% think it has done a good job of selling war bonds, 55% think advertising does a good job of delineating our objectives in the war, 56% think it was instrumental in planning Victory gardens.

Only 11% said they would be willing to pay for radio programs by a tax on radios, while 79% prefer to have programs paid for by advertising as at present. Similarly only 4% think magazines and newspapers should be financed by government funds, while 88% approve support from advertisers and subscribers.

To the question "How often do you buy by brand name?", 24% answered always, 42% most of the time, 16% sometimes, 9% now and then, 4% never, and 5% said they always asked for items by price.

to redeem expiring number 17 coupons stamped stores last weekend, snapping up anything that even some things that didn't. Backwash was a great wave of returns and exchanges resulting from hasty, last-minute buying.

TRADE ANGLE ON GRADES

Almost a decade ago, when the well food and drug bill stimulated interest in the grading of consumer goods, the American Standards Assn. undertook its first work in the development of specifications for such products. The American Home Economics Assn., ardent advocate of grades, took its place on A.S.A. membership rolls along with representatives of heavy industry concerned with industrial standards.

But an interest in consumer grades is not the exclusive prerogative of consumer groups. It's of vital interest to the advertising business, which won't let government grades undermine confidence in brand names. Consequently, with interest in consumer standards whipped to white heat again by OPA's orders for the grade labeling of canned goods and rayon hosiery, it was not unnatural that advertising groups should seek to participate in A.S.A.'s work in formulating specifications for consumer products. This objective was achieved last week by the admission into the A.S.A. of the Committee on Consumer Relations in Advertising, a coordinating agency which represents advertising media and agencies.

A.S.A. is staying discreetly out of the controversy over the hosiery and food labels, but it has done important work on a contract basis for OPA and WPA in drawing up specifications for gas and electric ranges, radio tubes, work clothes and safety shoes for both men and women workers.

ELECTRIC FURNACE STEELS

WILL BUILD A

BETTER WORLD TOMORROW



Freightway of Tomorrow

Today, these fine alloy and stainless steels are helping to make America's fighting equipment superior to any in the world.

Tomorrow, they will enable designers and manufacturers to meet heavy post-war demands, with better-than-ever peacetime products, increased in sales appeal—yet priced to meet keen competition.

Republic—long the leader in the field of electric furnace steels—has

increased its capacity to nearly 900% of that existing at the beginning of World War II.

When war production gives way to peacetime demands, Republic Electric Furnace Steels will be used for the manufacture of hundreds of new and better things to work with and to live with—in industry, in the home and on the farm. Republic Steel Corporation, General Offices—Cleveland, Ohio. Export Department: Chrysler Building, New York, N. Y.

REPUBLIC

ELECTRIC FURNACE STEELS

alloy...stainless..."aircraft quality"

—for hardness, toughness,
high strength to weight ratio
—for resistance to severe
tensional, torsional and
compressional strains, to



shock and impact; fatigue,
elevated and sub-zero
temperatures, corrosion,
oxidation, abrasion and
process contamination.

THE WAR—AND BUSINESS ABROAD

Mediterranean Shortcut

Seizure of island bases clears a path for convoys to India, an increasingly important source of Allied supplies, but political turmoil shrouds its future war role in uncertainty.

Picking off Italy's Mediterranean island fortresses has cleared a channel for United Nations shipping bound for Tripoli, Tobruk, and points east. Concentrated Allied air salies at Sardinia and Sicily leave little free time for Axis airplanes to harry convoys hiking toward the eastern Mediterranean loaded with troops and munitions.

• **The Longer View**—Too often this shortening of supply routes is viewed in American perspective and with an eye only to supplying an invasion of southern Europe. Opening of the Mediterranean may also have an important long-range effect on the war in China and Burma.

First, the Indian front is now thousands of miles nearer Britain and the United States. Second, the emergency routes from India which funneled important supplies to the Eighth Army for the Rommel chase across Africa last year can now be turned to Syria, Iraq, Iran, Russia, or China.

• **India's Contracts Multiplied**—India's war contribution has been considerable, if not in direct proportion to its potential (BW-Mar. 7 '42, p46). From a total of \$96,000,000 in war contracts placed in the first six months of the war, India's total has now bounced to nearly \$2,000,000,000.

When Egypt was endangered in 1942, India was the nearest source of auxiliary supplies—bulky goods that would have curtailed ship space available for other fronts if carried from America or Britain.

• **Locomotives to Water Pipe**—India contributed more than 1,500,000 tons of the following materials: (1) an estimated 1,000 acres of steel huts, sheds, garages, and hangars; (2) more than 1,000 miles of water pipe; (3) landing and assault craft for the sea operations of the Eighth Army; (4) locomotives, cars, track, and sleepers to build the railroad from Mersa Matruh to Tobruk; (5) full camouflage equipment, uniforms, 50,000 stretchers, 1,000,000 blankets, 250,000 mosquito tents, 1,250,000 field dressings, 160,000 tons of antimosquito cream, and 5,000,000 flashlight batteries; (6) 90% of all tents, canvas tank and truck protectors, and ground sheets; (7) 40,000 tons of dehydrated food; and (8) 7,000 tons of steel for landmines.

For the most part, India's war production is concentrated in factories well established before the war. War has brought mainly a diversion of facilities from civilian production rather than new capital investment.

• **Economic Woes Increased**—Cutting off of normal imports has intensified India's economic difficulties. The Indian food situation deteriorated as an army was raised—and fed—as British and American forces moved into the northeastern provinces, as normal food distribution was disrupted by military railway traffic, and as the loss of Burma cut off an important source of rice and grain. Hoarding, by growers, middlemen, distributors, and consumers, has been serious, and prices have leaped upward in

nearly all consumer lines—the Calcutta index of wholesale prices rose from 1939-40 to 227 in November of this year (1914=100).

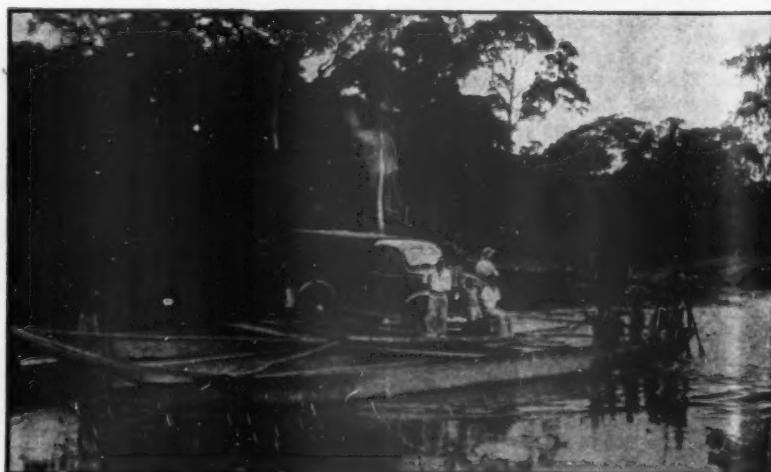
After rising to 127 in December 1941, the index of industrial activity compiled by "Capital," a Calcutta publication, dropped to 101.9 in September 1942 (1935=100). A key to this decline may be found in indexes of iron, and metal production. Coal output dropped to below prewar levels during the summer of 1942; power output fell 14% between 1940 and 1942; and iron production, after a rise from 100 in 1938 to 178.6 in May, 1942, dropped to 106.8 in September, 1942 (1935=100).

• **Strides in Shipbuilding**—In shipbuilding and repair, India has made great strides. From shipyards capable of producing only 1,500-ton ships before the war, 6,000-tonners are now being launched. Shipyard employment reached 30,000 in the spring of 1942, when 300 ships—minesweepers, trawlers (40 tons), corvettes, and motorboats—were under construction. By the spring of 1943, 7,000,000 tons of seagoing vessels had been repaired in Indian yards.

With Japanese-occupied Burma almost within artillery range of some Indian plants, war production problems are not all paper work, manpower, in

JUNGLE RUBBER

Each month the trickle of natural rubber reaching United Nations factories from French Equatorial Africa, Liberia, Uganda, and Tanganyika increases. But moving supplies in and rubber out means tough going. To reach plantations in French Africa, trucks must ferry Congo streams on makeshift native barges (below). Freelancing natives haul bundles to scales at district headquarters (right) where buyers send their stocks to Brazzaville, the capital, for shipment.



BRAZIL PLANS ITS OWN TVA

It is axiomatic that peacetime dreams of progress often become practical necessities in war: Soviet Russia's planned decentralization of industry was accelerated by the swift German advance into the Ukraine; Canada's Northwest has bloomed with completion of the Alcan highway; the wealth of China's Southwest is now that nation's mainstay.

• **Developments in Brazil**—In the western hemisphere, United States capital has made possible the birth of a permanent steel industry in Brazil (BW-May '41, p66), and critical materials are now being siphoned out of the steaming Amazon valley to U. S. war plants.

Apart from the Amazon, Brazil's most promising region is the 260,000 sq. mi. basin of the São Francisco river and its tributaries. To this region, the U. S. economic mission to Brazil, headed by Morris L. Cooke, pointed with significant emphasis.

• **Untapped Resources**—The São Francisco flows more than 1,800 miles north and east from the highlands above Rio de Janeiro before it empties into the Atlantic below Pernambuco. Nearly 1,750 miles of the river are navigable, and with its tributaries, it provides transport routes totaling more than 3,900 miles. Its course passes untapped resources, much cultivable land, and its power potential is tremendous.

In the valley live 2,000,000 people where 20,000,000 could dwell. Disease and emigration operate to keep the population small and poor. Yet, in the hills near its source, gold, bauxite, mica, iron, and diamonds are found. Close to these highland resources is the Pirapora falls, power source for future industry—connected by rail with Rio de Janeiro and tapping the north-south rail system now being built (BW-Jun. '43, p62). The plateau—across which it flows for 750 miles without a falls—is fine cattle country.

In the North—where the river turns east toward the coast, descending through 20 or more cataracts—three of major size—carnaúba wax and caroá fiber as well as minerals are found. Rice, once planted, yields three crops; cotton of the Egyptian variety can be grown with irrigation and soil care.

• **Other Potentialities**—The valley is not undeveloped except in contrast to its potentials. From the Atlantic, 2,000-ton vessels can travel inland to Paulo Affonso—the multiple cataract where 16,000 ft. of water per second dropping over 250 ft. can provide be-

tween 600,000 and 800,000 hp. if harnessed. Above the falls, three steamship lines operate a dozen or more 50- to 500-ton boats. At the western end of the railroad, which bypasses ten cataracts above Paulo Affonso, is Itaparica and a falls capable of generating over 200,000 hp.

• **Power Expansion**—Itaparica—in the middle of the fiber country—plans to expand the existing 1,000-hp. power plant and to construct a textile mill and a 50-bed hospital. For the latter, plans that were drawn by the U. S. Surgeon General's office have been "Brazilianized"—and everything but the X-ray equipment can be provided locally.

• **Textile Mill Saving**—At Itaparica now, caroá fiber is reduced to 4% of its bulk, sent 1,500 miles to São Paulo to be made into bags, then sent 1,500 miles to Pernambuco for use. The proposed textile mill, requiring little imported materials, will permit direct shipment to Pernambuco.

Cooke's economic mission to Brazil laid out an initial four-point \$2,500,000 plan for the river valley, but major expenditures may have to wait until after the war:

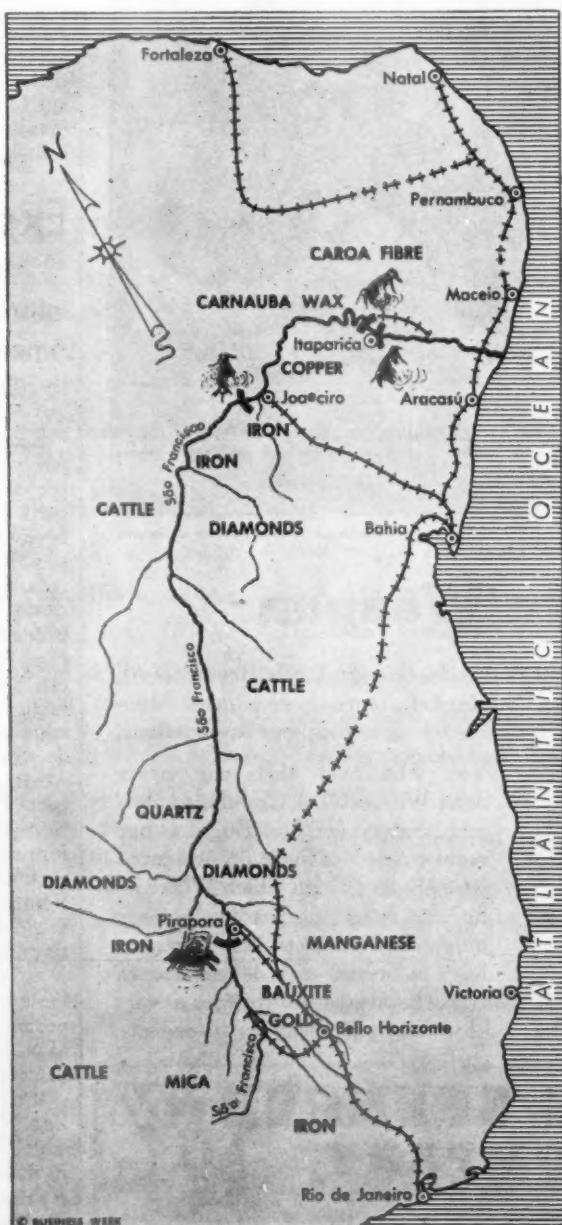
(1) Exploration, planning, and construction to develop navigation, irrigation, and power.

(2) Expansion of Itaparica power plant, textile mill, and hospital.

(3) Employment of a five-man technical mission, skilled in economics, hydraulics, electric power and transmission, agriculture and soil conservation, and sanitation.

(4) Authorization to employ foreign technical aid.

• **Big Things Are Planned**—First steps are being taken at Itaparica. The Westinghouse Electric & Manufacturing Co. is investigating the river's power potentials; Brazil has put in a bid for any obsolete landing barges discarded by our Navy as ideal for river communication; and other plans are on drafting boards.





Enlarged reproduction free on request.

Unknown Weapon -

This "weapon" with its up to 76,032 sharp steel teeth per square foot combs *foreign* matter out of raw textile fibers, and lays them uniformly preparatory to weaving. It is Wissco Card Clothing, an ingenious precision product unknown to all but the textile industry.

Wickwire Spencer devised a remarkable process which gives to Wissco Card Clothing *glass hard points*—with doubled and trebled life. It helps the textile industry speed the

production of materials for uniforms, blankets, tents—even mineral asbestos for numerous war applications.

You who read this may never need Wissco Card Clothing, unless you produce textiles. But it is one more example of the many advanced wire products with which Wickwire Spencer is serving practically *every* industry. For over 122 years we have pioneered such developments. If you have problems in wire or wire products, put them up to experts.

COPYRIGHT 1943

**WICKWIRE SPENCER
STEEL COMPANY**

500 FIFTH AVENUE

NEW YORK, (18) N. Y.



FAMOUS FOR QUALITY IN WIRE, WIRE ROPE, SPRINGS, METAL CONVEYOR BELTS, INDUSTRIAL WIRE CLOTH, POULTRY NETTING, HARDWARE CLOTH, INSECT SCREEN CLOTH, ELECTRICALLY WELDED FABRIC FOR CONCRETE

price-fixing. Although no facts are available, decline in steel output may be due to sporadic Japanese bombing during the past year. On the other hand, a few complete plants shipped from overseas, new hydroelectric power stations, and expansion of steel rolling mills will all tend toward boosting Indian output.

• **A Question Mark**—With the political horizon as cloudy as it is after more than a year of tension, India's future war role must remain a question mark. Within the nation, military preparations for an eventual campaign in Burma are frequently misunderstood as a garrisoning of the country against civil uprisings.

As a base for United Nations operations in the Burma-China sector, India must take first rank. In the meantime barring unforeseen internal difficulties and further Japanese inroads, India's continuing material contributions will bulk large in future Mediterranean actions. But not to be forgotten is the aid India can give to Russia this summer or in supplying Near East bases for a Balkan offensive.

Exporters Revive

Military successes spur interest in postwar markets; American Steel Export signs up to handle Zenith Radio lines.

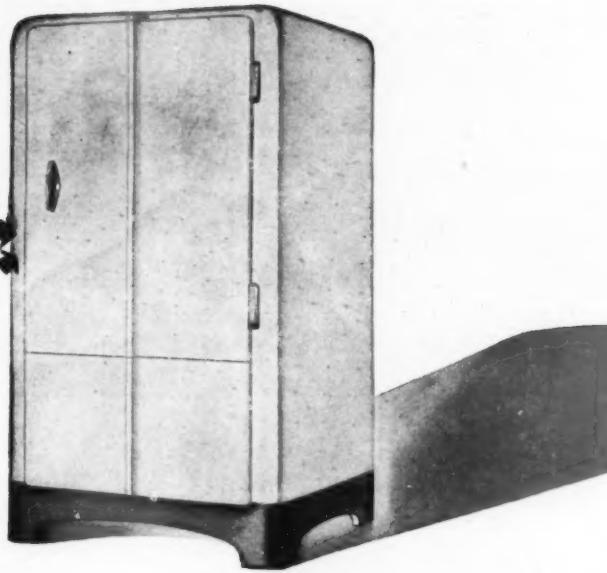
Successes of United Nations arms put postwar foreign trade just around the corner, and there—according to experts in the field—prosperity is still to be found. On the front, with an eye to postwar expansion, one big American radio producer changed sales horses recently.

• **Zenith Succeeds Philco**—Zenith Radio Corp. of Chicago has made the American Steel Export Co. of New York its exclusive sales representative in foreign markets "for radio, radar, and radionic devices." Simultaneously, H. W. McAtee, president of American Steel Export Co., announced his resignation from the board of directors of recently formed Philco International, whose products he had handled for 26 years. Before the war, Zenith operated in world markets with its own representatives in 98 countries.

When peace comes and Zenith gets back into civilian production, the exporter will handle more than radios. War development of radar and radionic devices (BW-Jun. 5 '43, p36) has forecast peacetime items about which Zenith can't and won't talk now, but which will revolutionize the radio—and, in this instance, the export-business.

• **Principal Lines**—Chief exports handled by American Steel Export are machinery, auto parts and accessories,

WHY OPEN WIDE TO SEE INSIDE?
WHY? WHY? WHY? WHY?



WHAT'S SO SECRET ABOUT A REFRIGERATOR?

Does a refrigerator *have to be* a hideaway?

Think how much more convenient it would be if one could see inside without opening the door. See what food is on hand . . . where it is stored. Figure also how much more efficiently and economically it would operate if a housewife could do her inside looking without wasting refrigeration. All right. Why not make it that way? Why not open it with glass? The door. The shelves. The partitions around the special storage compartments. Add to the convenience of the modern refrigerator the utility of clear vision.

Research has fitted glass for this and many other practical uses. To its unequaled and lasting transparency, glass now boasts many amazing qualities that fit it for jobs never dreamed of before.

Did you know? Glass can be made stronger today than many metals. It is one of the most chemically stable of all materials. More dimensionally stable, too. Its surface is among the hardest in the world. Nonporous. Acid-resisting. Unusually resistant to abrasion. Its weathering qualities are unequalled. You can obtain it in polished flat sheets or bent shapes; laminated or fabricated with another material. And you can have it in the most efficient multiple insulating units.

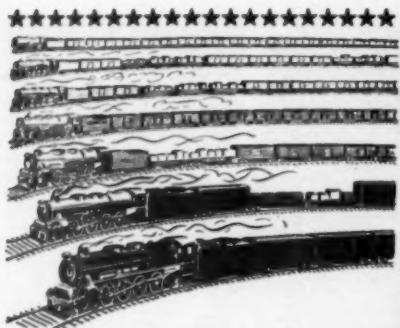
Just remember, when you design or redesign anything for the home, for industry, or for any structure today, there's a material that you can see through, that lets light through, that's strong and long-lasting. It's glass. Libbey-Owens-Ford glass, of course.

Perhaps glass fits your product or plant. Won't you write us about any use that interests you? That's the way to really find out. Libbey-Owens-Ford Glass Company, 863 Nicholas Building, Toledo, Ohio.

Destructible?
Wood-Metal-Plastics-Glass. No material is
indestructible. However, nothing unbroken
which it has been properly specified and
engineered. When our application engineers
say "Yes", you can be sure about glass.



LIBBEY·OWENS·FORD
A GREAT NAME IN *Glass*



By the Trainloads-



Refrigeration Serves the Army



Even aviators get hungry!

Our fighters, both overseas and in America, have better food than those of any army that ever marched. The freshness of this food is protected by adequate refrigeration.



Ice chests are included in field kitchens.

Much of the refrigeration used by the Army takes the form of ice. To service the thousands of ice chests in field kitchens near the front lines, hundreds of ice-making plants are being provided.



Hundreds of ice-making plants are required.

Other cooling systems serve cold storages, provide refrigerated transport, do quick-freezing, cool drinking water and beverages, keep serums and plasma, air condition hospitals, store parachutes, make explosives, test guns, airplane engines, and tanks.



Frick Refrigerating Machines are the standard of the industry. Write for Bulletins, mentioning the cooling work you wish to do.

FRICK CO.
WYOMING, PENNA.
U.S.A.

DEPENDABLE REFRIGERATION SINCE 1879



HOGS IN PASTURE

Long lines of American-built locomotives—hogs in railroad jargon—are awaiting lend-lease shipment to the Far East. Glutting the New York Central's storage yards at an eastern sea-

port, they are a symbol of America's role as the transport arsenal for virtually all of the United Nations. To achieve that distinction, the United States has doubled its locomotive production—pushing its annual output to the highest rate since 1923.

paper, radios, and household electrical appliances. When the war chopped off U. S. production of radios and most electrical goods (except for war use), the company successfully turned its hand to expansion of exports in its other lines. While before the war radios and electrical goods comprised a major part of its better-than-\$5,000,000-a-year business, other lines are maintaining operations at close to 60% of prewar levels.

handicapping enterprises largely dependent on protection, but to eliminate anomalies, which sometimes result in raising costs of production in "protected" lines, and to rationalize the entire tariff structure.

Government is asked to prepare a postwar public works program and to meet future depression threats by continued or increased spending despite budget deficits, while at the same time cutting business taxes and permitting shifts in depreciation rates. Losses of revenue, it is suggested, would be offset by increased taxes in boom periods, while maintaining a stable economy would keep normal revenues high and cut government relief expenditures. At the same time, it is suggested that in periods of incipient trade booms restraints on private investments may be called for to head off overexpansion.

• **"Seed Money" Wanted**—Current high rates of taxation are expected to extend beyond the war, but the C. of C. hopes, among other things, that schedules will be revised to permit accumulation of reserves for postwar replacement and conversion of plant. For taxes on individual companies' yearly earnings, collections based on average income over a period of years are recommended to allow for business losses.

Echoing a previous pronouncement on management-worker relations before an Ottawa tribunal (BW—May 15 '43, p50), the C. of C. suggests the drafting of a national labor code, promotion of cooperation between workers and management, and thoughtful assistance to worker adjustment to changing conditions of employment.

• **Other Suggestions**—In addition, the reconstruction blueprint calls for a

CANADA

Cooperation Plan

Canadian C. of C. outlines program under which business and government can collaborate in postwar adjustment.

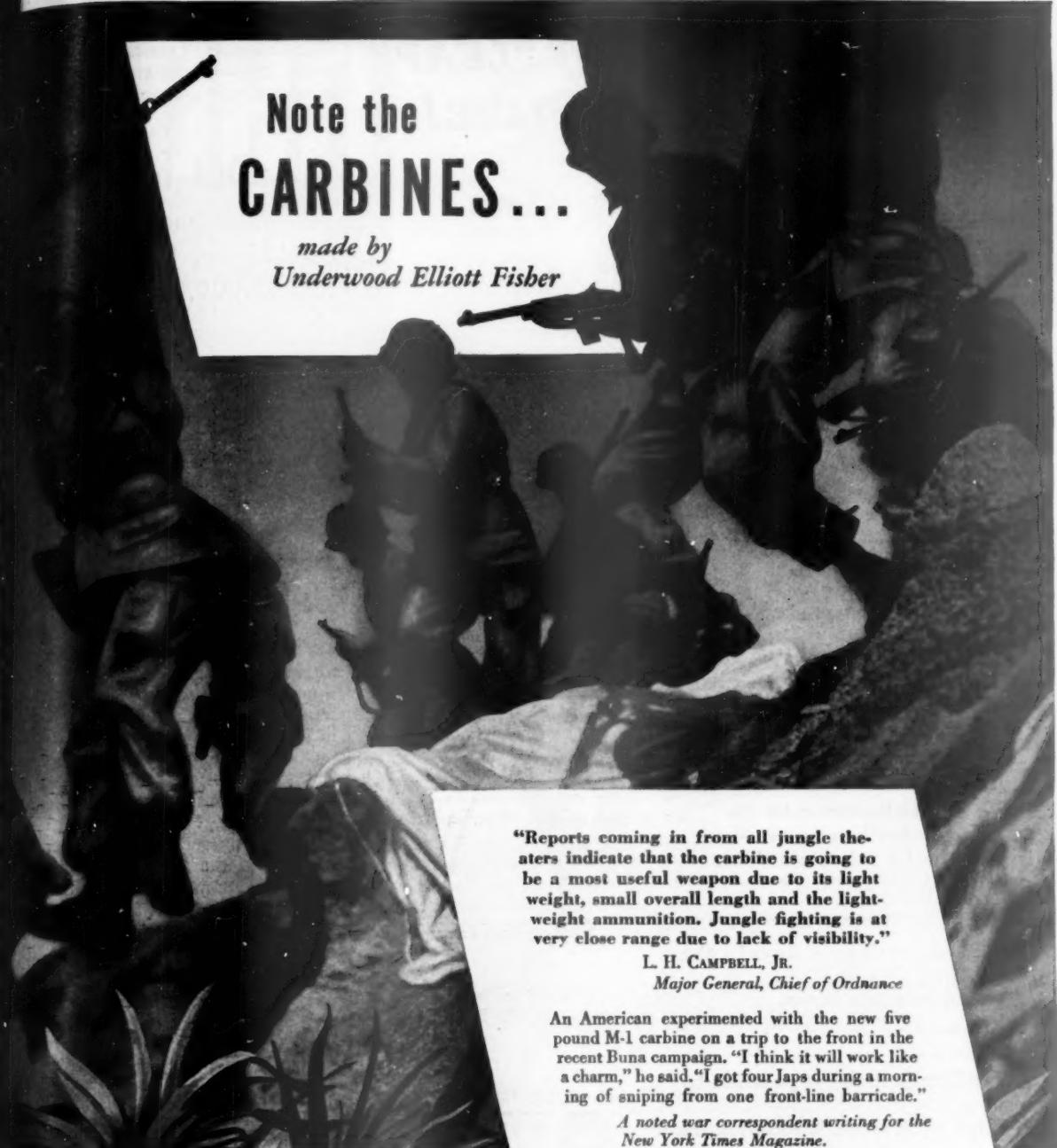
OTTAWA—Postwar reconstruction committees of the Canadian parliament have been handed a planning blueprint by the Canadian Chamber of Commerce.

With only a few unfriendly words to say on government tariff, tax, budget, and labor policy, the C. of C. offers constructive suggestions for business-government cooperation in tackling future Canadian economic problems to assure that reconstruction does not mean a return to ways of the past.

• **Rationalized Tariffs**—Labeling the present tariff system "haphazard," the C. of C. calls for an over-all study of tariffs—the first since 1879—not with a view to eliminating all duties or seriously

Note the CARBINES...

made by
Underwood Elliott Fisher



Note the paratroopers:—Their fire power is increased by the new U. S. Carbine, Cal. .30 M-1, a light, fast-firing gun.

"Reports coming in from all jungle theaters indicate that the carbine is going to be a most useful weapon due to its light weight, small overall length and the lightweight ammunition. Jungle fighting is at very close range due to lack of visibility."

L. H. CAMPBELL, JR.
Major General, Chief of Ordnance

An American experimented with the new five pound M-1 carbine on a trip to the front in the recent Buna campaign. "I think it will work like a charm," he said. "I got four Japs during a morning of sniping from one front-line barricade."

A noted war correspondent writing for the New York Times Magazine.

TO OUR MILLIONS OF VALUED CUSTOMERS:

TYPEWRITERS—New and used typewriters are sold only to the U.S. Government for the armed services. You may rent used machines under Office of Price Administration regulations.

ADDING AND ACCOUNTING MACHINES—New machines are available under War Production Board regulations. We have been able to assist many of our customers with their accounting problems.

RIBBONS, CARBON PAPER, ETC.—We may sell ribbons, carbon paper and other supplies for all types of office machines without restriction.

MAINTENANCE—Our maintenance service is in complete and efficient operation from coast to coast to help you keep your Underwood, Elliott Fisher and Sundstrand machines operating efficiently and we are permitted to manufacture the necessary parts.

For Victory . . . UEF enlisted to make Carbines

also in war production on—Airplane Instruments—Gun Parts—Ammunition Components—Fuses—Primers and Miscellaneous Items.

Underwood Elliott Fisher Company

One Park Avenue, New York, N. Y.

★ Enlist Your Dollars • Buy More War Bonds • To Shorten The Duration



WHEN A MAN MUST "LEAP" TO LIVE!

Queer feeling...
balancing up there on
a heaving rail...
sinking ship underfoot—
cold dark sea below.

He gets into his "Overboard"
suit right over his shoes and all his
clothing, and leaps down to the
sea in less than a minute's time.

Think of it!

He may be hours or even days in the
water before rescue arrives.

Your War Bonds make it possible to
equip ships with these Goodall Rubber
life saving suits. Remember—another
Bond may help to save
another seaman's life.



GOODALL RUBBER PRODUCTS

GOODALL RUBBER COMPANY

PHILADELPHIA, NEW YORK, BOSTON, PITTSBURGH, CHICAGO, WASHINGTON, D. C.

GOODALL RUBBER CO. OF CALIFORNIA GOODALL RUBBER CO. OF TEXAS

LOS ANGELES, SAN FRANCISCO, SEATTLE, PORTLAND, OREGON

HOUSTON

THE WHITEHEAD BROTHERS RUBBER COMPANY

FACTORY: TRENTON, N. J., Est. 1870 75 Years of "Known First" One Most Valuable Commodity

widening of social security benefits, intensive study of farm problems—including further soil analysis and compilation of a Canadian "Domesday" registry of arable land—and an energetic examination of export and import trade possibilities.

All Out for War

Munitions production in Dominion shortly will reach the \$5,000,000,000 mark; ships, aircraft, vehicles top list.

OTTAWA—Stock-taking of Canada's contribution to the war reveals (1) over 700,000 men in the armed services; (2) 900,000 workers in war industry; (3) munitions deliveries to date nearing \$5,000,000,000; (4) estimated munitions production for the fiscal year ending next Mar. 31 of \$3,425,000,000; (5) serious shortages of manpower in coal mining, metal mining, lumbering and agriculture, and lesser shortages in heavy steel and munitions manufacturing.

• **The Leading Items**—Outstanding munitions deliveries to date include 500 ships, 8,000 aircraft, 475,000 motor transport vehicles, 24,000 combat vehicles, 55,000 heavy guns, 630,000 smaller guns, 800,000 tons of chemicals and explosives, and instruments and communications equipment valued at \$160,000,000.

Weekly production figures were also included in the summary given to the House of Commons last week by Munitions Minister C. D. Howe: six ships, 4,000 transport vehicles, 450 combat vehicles, 940 heavy guns or mountings, 13,000 smaller weapons, 525,000 rounds of ammunition, 25,000,000 rounds of small arms ammunition, 10,000 tons of chemicals and explosives, and \$4,000,000 worth of instruments and communications equipment.

• **The Ship Program**—At the end of May, 168 cargo ships had been launched and 141 delivered—137 of them 10,000-tonners. Contracts have been placed for 424 frigates, corvettes, and minesweepers, of which 221 will have been launched by the end of this month. Of 178 wooden patrol boats and minesweepers ordered, 100 are in the water. Ottawa is spending \$1,000,000,000 on naval and cargo ships this year.

Construction has started on 145 military locomotives for India. The locomotive plant that completed on schedule the contract for 1,400 Valentine tanks for Russia is now making engines and components for naval ships.

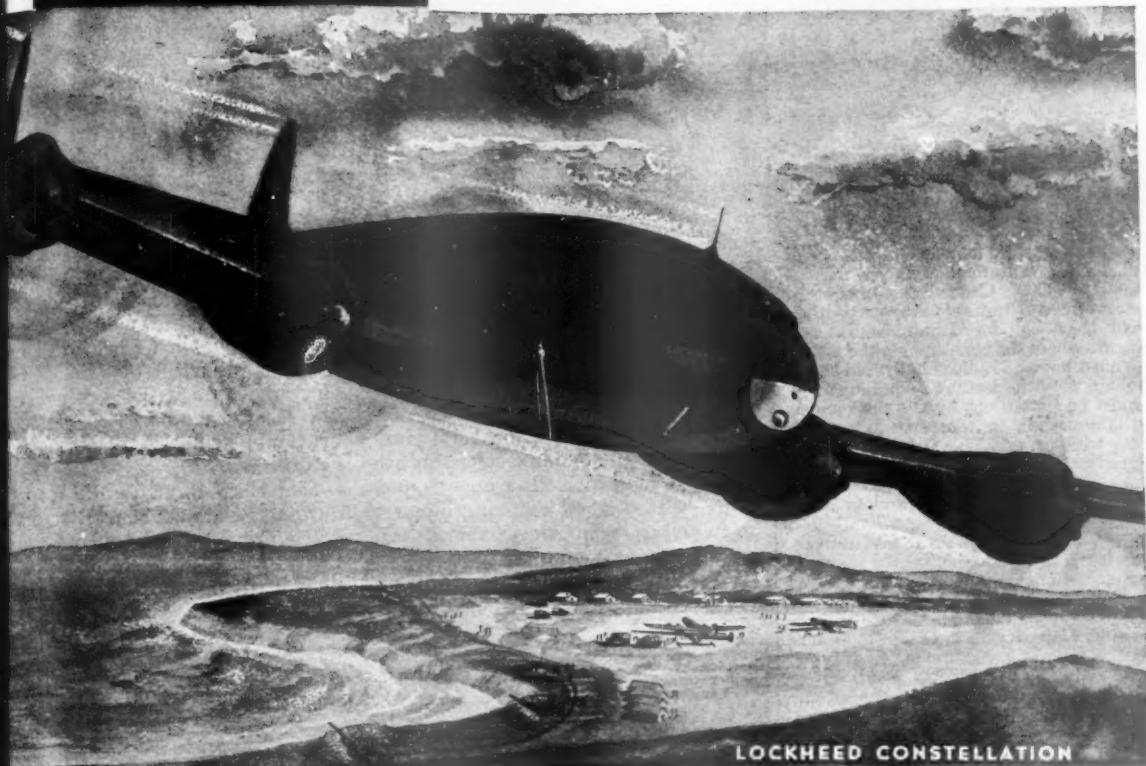
Canada's aluminum production facilities are now supplying about 40% of the war requirements of the United Nations, according to Howe.

ROHR

PARTS & ASSEMBLIES

"Get that Fastest
with the Mortest!"

Expressive phrase of a famous Confederate fighter



BUILD 'em bigger, fly 'em faster, do it first and do it in quantity--America's axiom for supremacy of the air! No goal in American history was ever more urgent! ROHR production fighters force their tasks of precision parts manufacture and vital assemblies toward this end. ROHR-equipped air giants fly to battle in ever increasing numbers, rushed there by the men and women on production lines who know that speed saves lives!

HELPING TO WRITE
THE STORY OF TOMORROW

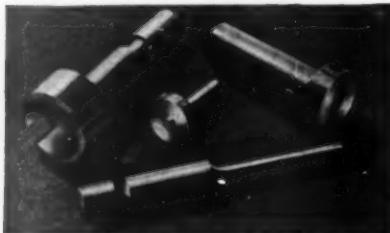
ROHR AIRCRAFT CORPORATION CHULA VISTA, CALIFORNIA



PRECISION PARTS

THEIR END-USE IS A SECRET

A story of amazing accuracy of American instruments will come out of this war. It can't be told yet because there are still a lot of surprises in store for Herr Hitler and his gang of bandits. There is no secret, though, back of the amazing precision work that has made this accuracy possible.



"... ten times as fast ..."

These small, army, instrument parts are typical. Each is centerless ground to within tolerances of .0002". Concentricity between diameters is held to limits of ten thousandths. Some of them call for definite radius requirements where the shank meets the head. Others must have no radius at all. And there is another very important requirement—they must be turned out by the thousands.

Ace is a pioneer in this ever-increasing accuracy which World War II has taught to mass production. Management "know-how" and modern equipment are turning out tolerances as close as .0001", and finishes which a speck of dust or a warm hand distorts—and doing it ten times as fast as ever before. Ace is a dependable source for volume production of Bar Stock, Shafts, Studs, Pins, Punches, Taper Pins and parts. Diameters may be as small as .020" or as large as 6". Capacity is available for your Centerless Grinding requirements. If you have any grinding problems send us a sample, sketch, or blueprint for quotation.

This new booklet describes the facilities available at Ace for the machining, assembling and heat treating of small parts. A copy will be gladly sent upon request.



ACE
MANUFACTURING
CORPORATION
for Precision Parts

1211 E. ERIE AVE., PHILADELPHIA 24, PA.

LABOR

Selling Bridges

Longshoremen's meeting undertakes to present West Coast leader as "essential" to success of war effort.

Harry Bridges' determination to beat the order for his deportation (in suspense pending a constitutionality determination) has been demonstrated again. The fifth biennial convention of the International Longshoremen's & Warehousemen's Union last week, attended by 130 delegates, was used by Bridges' skillful public relations staff to build up the idea that the union's Australian-born director is "essential" if best interests of the public and the Army are to be served.

• **Steaming Things Up**—How well the publicity staff did its job may be judged from some of the convention highlights. Speeches by and about the longshoremen's leader were recorded by the Office of War Information for broadcasting from stations in Australia, New Zealand, and England. A banquet was given by leaders of the Chinese colony in San Francisco at which Bridges was presented with a scroll thanking him for his refusal to let his longshoremen load scrap on Japanese ships in 1938.

Piece de resistance of the publicity effort was the I.L.W.U. national broad-

cast from Hollywood June 13. Presented by national advertising in 37 newspapers, a dramatization of the war work Bridges and his union was broadcast under the title, Keep It Moving. Bridges himself participated.

• **Significant Action**—While West Coast executives watched this buildup with interest, they realized that a far more significant development was the resolution passed by I.L.W.U. delegates demanding the ousting of Paul Eliel as chairman of the Pacific Coast Maritime Industry Board, the tripartite committee set up by the War Shipping Administration to rule West Coast docks.

The resolution climaxed a feud between Eliel and Bridges (who represents his union on the board) which has been growing since the first of the year. Object of the board, as set up by the War Shipping Administration, is speed loading and unloading of ships at West Coast ports.

• **Eliel Fires Broadside**—First public break between Eliel and Bridges came last February when Eliel issued a statement to the effect that the board had fallen down on its job because production (cargo handling) was "still pitifully below the standards that can properly be expected."

Said Eliel, formerly head of the Industrial Relations School at Stanford University: "Every member of I.L.W.U. and all its officers should hang their heads in shame. On the basis of evidence, it must be assumed that



San Francisco's Chinatown aided the campaign to neutralize the deportation order against Harry Bridges, chief of the West Coast longshoremen's

union. The Chinese presented Bridges with a scroll, thanking him for preventing his men from loading Japanese ships with scrap in 1938.

More than . . . a printmaking process

WITH an Ozalid machine you make whiteprints direct from your engineering drawings in two fast steps—Exposure and Dry Development . . . the most simple method on record.

The Model B illustrated here is designed for large-scale production; turns out prints at speeds up to twenty feet per minute.

OZALID CUTS DRAFTING TIME

You can make design changes quicker with Ozalid.

Using an Ozalid transparent print of the original—it's never necessary for the craftsman to redraw any line which remains the same in the new design . . . it's never necessary to employ photographic equipment . . . or to otherwise throttle production.

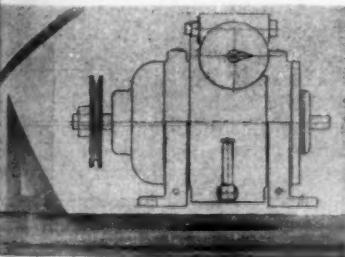
Ozalid transparent prints are made in the same manner as standard prints—without Van Dyke tieups. Think what this means considering the number of design changes you're making today—the number you'll be making in the postwar period.

Be sure of a "head start" with Ozalid!

OZALID GIVES THESE EXTRA VALUES

Most Versatility

You can do much more with Ozalid. You



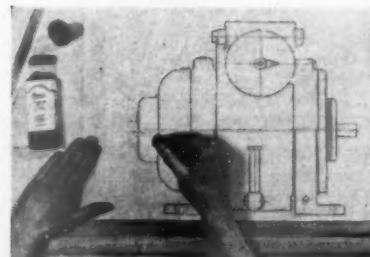
This is an Ozalid transparent print of an engineering drawing—part of which has to be changed.

can make prints of your engineering drawings, charts, and letters which will have blue, black, or maroon lines on a white background. You can make prints on standard, transparent, and foil materials.

What's more—all Ozalid materials are available in cut sheets, as well as roll stock; thus, by using sheets the size of your originals you can completely eliminate trimming waste.

Low Maintenance Costs

Any inexperienced person can operate an Ozalid Whiteprint Machine. There's

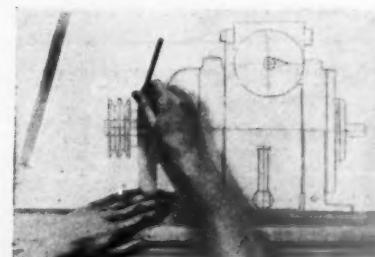


2. The draftsman quickly eradicates the obsolete lines with a quick-drying corrector fluid.

never a labor problem, because Ozalid's Dry Development has simplified printmaking—eliminating the liquid baths, the driers, the plumbing connections which demand skilled supervision.

Another result of Ozalid's Simplified Printmaking is low electrical consumption. The Model B, operating at maximum speed, consumes only 4.4 kilowatts.

Ozalid Whiteprint Machines are designed for large-scale, medium, and occasional print production . . . and there are dry developing units for those having a suitable printer.



3. The new design is drawn in . . . the desired number of prints can be made from this transparent copy.

OZALID PRODUCTS DIVISION

GENERAL ANILINE AND FILM CORPORATION

Johnson City, N. Y.

OZALID IN CANADA—HUGHES OWENS CO., LTD., MONTREAL

WRITE FOR CATALOG . . . and sample booklet of Ozalid Whiteprints. See how leading manufacturers save time, labor, and materials with Ozalid.

**LET THE BOSS WHO HAS
One Labor
Problem Less**

**P.S. he owns an APéCO
PHOTOCOPY MACHINE**

APéCO Eases Man-Power Shortage. It saves valuable time now spent on tracing, typing, and copying—releasing Men, Women and their Equipment for other work.

APéCO makes photocopies up to 18x22"—*1st copy in 3 minutes—120 copies an hour*. No chance for error! Used by leaders throughout industry, law, government, engineering. Foolproof operation! Sturdy construction!

Anyone Any Time Can Make Photo-Exact Copies of Anything Written, Printed, Drawn or Photographed

Any inexperienced girl or boy can produce permanent, photo-exact copies at any desk or table. No darkroom needed.

Write for FREE folder now! Without obligation, ask to have an APéCO Consultant call — located in all principal cities and Canada.

\$5
FOR CHICAGO

SAVE TIME
WITH PHOTO-COPIES OF
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AMERICAN PHOTOCOPY EQUIPMENT CO.
2849 N. Clark Street, Dept. 18 Chicago, Ill.

IN THE PACIFIC
his job will be easier if you back him up with war bonds.

in
St. Louis
your job will be easier after a good night's rest..

HOTEL **Mennox**
EVERY ROOM AIR CONDITIONED... NOISE-PROOFED... FROM \$3.00

LOEW'S INCORPORATED
"THEATRES EVERYWHERE"

June 10, 1943

THE Board of Directors on June 9, 1943 declared a dividend at the rate of 50c and 50c extra per share on the outstanding Common Stock of this Company, payable on the 30th day of June, 1943 to stockholders of record at the close of business on the 22nd day of June, 1943. Checks will be mailed.

DAVID BERNSTEIN,
Vice President & Treasurer

POST-WAR PLANS
Ford, Bacon & Davis
Engineers

What the Antistrike Bill Provides

The provisions of the Connally-Smith war labor disputes bill cover all unions and all employers "producing, manufacturing, constructing, reconstructing, installing, maintaining, storing, repairing, mining, or transporting under a war contract" and employers whose operations "may be required in the prosecution of the war or which may be useful in connection therewith" with the exception of rail and air carriers covered by the Railway Labor Act.

These are the measure's major provisions:

(1) The President is given statutory authority to seize plants where production is affected by labor disputes and hold them on behalf of the government for no more than 60 days after full production has been restored.

(2) The bill bans a change in the terms and conditions of employment while the government is operating the plant unless such changes are ordered by the National War Labor Board.

(3) NWLB decisions are required

to conform with the National Labor Relations Act.

(4) The NWLB is empowered to subpoena witnesses and documents.

(5) Strikes are outlawed for 30 days after notice in writing is given by employee representatives to appropriate government agencies at the end of which time the National Labor Relations Board will conduct a secret strike ballot and certify the results.

(6) The bill makes it unlawful for labor organizations to contribute to political campaigns.

(7) Penalties of fines up to \$5,000 and/or a year's imprisonment are provided for any person who coerces, instigates, induces, conspires, encourages, aids, directs, guides, or finances participants in an interruption of production at a government-operated place of employment.

(8) Anyone who fails to observe the 30-day cooling-off period before striking, or in any other way wilfully fails or refuses to follow the procedure for making strikes legal, is liable for damages in a civil action.

Antistrike "Out"

If labor can prevail upon Lewis to settle coal trouble leaders believe President will veto Connally-Smith bill.

The speed, enthusiasm, and thumping majorities with which both houses of Congress approved a hastily written antistrike bill (page 5) and sent it to the week to the President have stirred union leaders so deeply that observers had to hark back to 1922 to find an adequate comparison. In that year, the U. S. Supreme Court, in the Coronado Coal & Coke Co. case, decided that unincorporated labor organizations might be sued as entities and held liable for damages under the Sherman Antitrust Act. Union leaders, realizing the court judgment reflected a public opinion hostile to unions, drew in their horns.

• **Land Whacks Everybody**—Representatives of the shipowners on the board also were rebuked for their "lack of flexibility in dealing with the board's problems," but Land pointed out that the shipowners had agreed to many of the board's rulings unfavorable to them without demanding that the chairman be removed. He said Eliel had been too considerate of the longshoremen and had shown an unwillingness to press for needed corrections hard enough, and concluded that the board should get to work and produce results.

While the factions wrangle, any possible increase in the efficiency of handling cargo on the West Coast docks is blocked.



Baldwin "Austerity" Locomotives in the Army

Baldwin locomotives in the Middle East, dubbed "Austerity" by the British, are riding the rails to keep our armed forces supplied with all the things needed to help the United Nations win the Victory. This rugged power is serving on other fighting fronts where so much depends on uninterrupted service on long lines of communication.

These Baldwins, with 112 years of sound engineering behind them, will do the job for which they were designed. More than 64,000 of them have been doing an outstanding job for as long as there have been railroads in the United States, and today many of them are serving America's great transportation systems, from coast to coast.

But that is only part of Baldwin's job. The Army-Navy "E" flies from the masthead for outstanding production of Army tanks, guns, gun mounts, castings, forgings, marine diesel engines and other vital war materials.



BALDWIN

The Baldwin Locomotive Works, Philadelphia, Pennsylvania:
Locomotive & Ordnance Division; Baldwin Southwark Division;
Cramp Brass & Iron Foundries Division; Standard Steel Works
Division; Baldwin De La Vergne Sales Corp.; The Whitcomb
Locomotive Co.; The Pelton Water Wheel Co.; The Midvale Co.

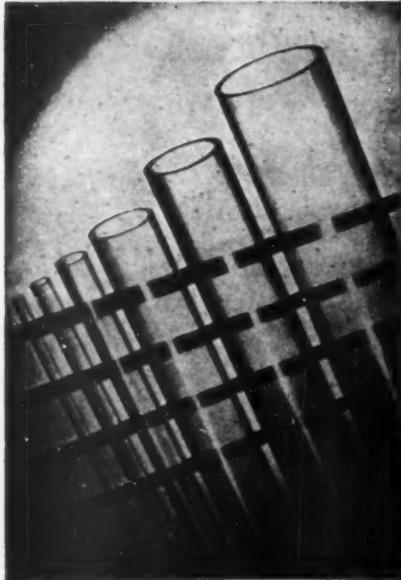


Baldwin serves the Nation which the Railroads helped to build

TULOX

REG. U. S. PAT. OFF.

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Bands behind these TULOX Plastic Tubes prove their transparency!

Because it is made by our exclusive processes, TULOX Plastic Tubing possesses physical properties of timely interest. It is . . .

Made to close tolerances
Made from several different base resins
Available in wide range of sizes
Made in unlimited lengths
Light in weight
FREE OF STRAIN
TRANSPARENT

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HOLLOW ROD

Made from Tenite II
HEXAGONAL • KNULED • ROUND

SAVE CRITICAL MATERIALS! One pound of TULOX Plastic Tubing or Hollow Rod will replace approx. 8 lbs. of copper, block tin, stainless steel or 2½ lbs. of aluminum or rubber. Every week, somewhere, a designer or production man "specifies TULOX" and releases more critical material for vital war production.

NATIONAL DISTRIBUTION. Immediate shipment from warehouse stocks for War Production. Illustrated catalog mailed on request.

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his position made untenable by the prospect of another mine stoppage.

Labor leaders also are working day and night to convince the White House that the Connally-Smith measure is a piece of maliciously conceived, precipitously drafted spite legislation which would, in actual effect, provoke labor unrest and harm the war effort.

• **Grounds for a Veto**—How much the war effort might be harmed, if at all, by the enactment of the Connally-Smith bill is the subject of a raging argument, but no one has come forward to challenge the assertion that the law would complicate wartime labor relations immeasurably. And it is this factor, beyond the area of dispute, that may give the President the rationalization he needs for vetoing the bill.

The bill's provisions (page 110) would provide the incentive for strike threats, because the simple expedient of threatening might enable workers to jump their case to a place at the top of the

National War Labor Board's jammed docket. A threat to strike, leading to a ballot and government seizure of the plant involved, would make a dispute an emergency case.

• **Exaggerated Demands**—Nor can the provision for taking a strike vote under the supervision of the National Labor Relations Board be counted on to act as an effective deterrent to strike threats. On the contrary, labor argues that this will encourage wilder and more extreme demands, and this is accepted in some important management circles. A great number of employees will, for example, be inclined to vote in favor of a 50% pay increase when they know that they won't be called on to strike for it; the affirmative would result in at least temporary ousting of private management and assure consideration of their demands by prolabor NWLB.

Another worry for employers is the provision that another notably prolabor agency, the NLRB, shall formulate the



LUXURY LIMITED

Hotel life isn't what it used to be. In Chicago's swank residential hotels, guests make their own beds on Sunday (above) because chambermaids now work a six-day week. In Philadelphia, hotels and clubs this week abolished room service, linen napkins,

and fresh sheets nightly, notified guests they'd get just one face towel and one bath towel daily. One-day laundry service also went by the board, and restaurant hours were cut to a minimum. The Quaker City move was made to conserve manpower; the Chicago work-week action was taken to combat absenteeism.

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sues in dispute for presentation on a ballot to the employees affected. Any one who has ever read critically the questions asked in a public opinion poll knows how easy it is to "load" these apparently objective investigations.

• **Wide Range of Discretion**—Although in one section of the bill there is mentioned the possibility of government seizure of plants faced with a "threatened strike," the explicit seizure powers conferred on the President "may be exercised . . . whenever the President finds, after investigation, and proclaims that there is an interruption of the operation of such plant, mine, or facility as a result of a strike or other labor disturbance." This creates a shadowland in which the President may act at his own discretion.

In some cases, after the 30-day waiting period and closed ballot provisions of the bill are satisfied and the President hesitates to take over the affected properties, there will be a strong tendency to create a more or less synthetic labor disturbance which would expose its participants to no penalties. This would set in motion the seizure and adjudication machinery. The prospect of government seizure would also enhance the bargaining strength of organized labor.

• **No Enforcement Agency**—The most conjectural aspect of the whole philosophy expressed in the Connally-Smith bill, however, is the problem of enforcing it. No separate agency is given responsibility for this job, nor is such an agency created. This would leave the policing up to the Dept. of Justice and other law enforcement agencies, and the Justice Dept. has proved extremely sensitive to White House sentiments.

Except where the Administration chose to use such a law for its own interests, as against John Lewis, for example, nothing could keep the measure from becoming a very dead letter if that was the President's desire.

Men for Moly

Climax Molybdenum tops WMC manpower priority list in nonferrous mines; draftees are urged to return.

When the War Manpower Commission recently compiled a list of nonferrous metal mines, in order of preference for man priorities, Climax Molybdenum Co. led all the rest, thus italicizing both the need for that steel-alloying element and the shortage of workers at the huge mine 11,300 feet up in the Rockies.

• **List Not Made Public**—A hundred other mines are listed, 46 in the Rockies, to which men are to be sent in order if they can be found. Names of the 100 weren't made public, but the general



Illustration by
Herbert Morton Stoops

The needless dead of New Orleans—

DURING the War of 1812, General Andrew Jackson defeated the British at New Orleans on January 8, 1815—at a cost of two thousand men, killed and injured. But Washington did not learn of Jackson's great victory until February 4th. On March 6th, after nineteen days of hard riding, a courier reached New Orleans and informed the dismayed General Jackson that the peace treaty between the United States and Britain had been signed in Belgium . . . two weeks before the battle of New Orleans!



The nation is at war again, and the finest postal service in the world has lost hundreds of men to the services. Your cooperation is needed to maintain its high standards . . . You can help less experienced clerks sort the mail by using your district number in return address. Use the district numbers of your correspondents . . . It's one way we can contribute to war manpower needs.

PITNEY-BOWES, the originators of Metered Mail, and the largest makers of postage meters in the world, is now engaged in war production. Yet all our experience in expediting mail is at your service. Call any office.

Pitney-Bowes POSTAGE METER CO.



Branches in principal cities. Cf.
phone directory. In Canada:
Canadian Postage Meters, Ltd.

1459 Pacific St., Stamford, Conn.



order of urgency as to metals is (1) molybdenum, (2) copper, (3) lead and zinc.

The search is on in earnest for men to produce desperately needed metals. U. S. Employment Service men are going over the mines' lists of miners who have quit or been drafted, running down leads through Selective Service records, and trying to induce the men to return.

• **Searching War Plant Rolls**—On the other end, USES is scanning employment records at western war plants, striving to find former miners. Operators must certify that, if returned to the mines, the men will be given jobs. Strangely, some are refusing to do this. They say: "He left us in the lurch; we don't want him back!" Miners are being transferred as short distances as possible, and according to such considerations as the availability of housing and the efficiency of the mine operation, so many won't go back where they came from.

Here's another place where war considerations will squeeze down on little business. A mine where huge automatic machinery in series, operated by comparatively few men, can daily grind a battleship's weight of ore into precious and badly needed concentrates clearly is more valuable to the war effort than a smaller and less efficient operation. This means that, after Climax, the huge copper mines of Arizona, Utah, and Montana will get men first.

M. of M. Plus

NWLB adds maintenance of membership to preferential shop in Shell case, and result approximates closed shop.

Just two years ago, the National Defense Mediation Board proposed a compromise to settle a costly strike at the Inglewood (Cal.) plant of the North American Aviation Corp. (BW-Jun. 14 '41, p14). It was called "maintenance of membership," and it represented an attempt to establish a middle ground between the union shop and the open shop. Since that time, through directive orders of NDMB and its successor, the National War Labor Board, union maintenance agreements have become almost standard for a large and important section of American industry.

• **Answer in Shell Case?**—Forward-looking employers who don't want a new development to take them by surprise know that there is nothing static about labor relations and no terminal point to union demands. They have been certain that union maintenance was not a final answer to union-shop demands and that eventually maintenance of membership would be changed to some-

thing stronger under union and government pressure. The question was, what would that something be? This week employers were studying NWLB's decision in the Shell Oil Co. case as possible answer.

The Shell case, which involves the company's Wood River (Ill.) operation and 13 A.F.L. unions participating in a Metal Trades Dept. unit, went to the board a year ago as a dispute over new contract terms. At issue were wage increase demands (which were settled before NWLB got around to making a final ruling), hours of work, and the union's request for maintenance of membership. The question of hours became a minor point.

• **Breaking New Ground**—On the surface there was nothing unusual in the Shell case; and when NWLB awarded membership maintenance, it appeared simply to be repeating a familiar formula. But actually the board was breaking new ground, for the Shell contract already provided for preferential hiring.

Under Shell's preferential-shop agreement, the company must inform the union when it wants to employ additional labor, and the union refers the job applicant. Within certain narrow limits, the company may refuse to engage the job seeker referred by the union, and the union has the right to send others. Only if the union is unable to supply the new men required is management free to hire on its own. • **Becomes Closed Shop**—In practice, the applicant referred by the union is, or will become, a member of the union; but there is nothing in the preferential-shop clause itself to prevent him from dropping his membership. Nowhere before, under government order, has a preferential shop been joined with maintenance of membership, because it is clear that if the union controls hiring and workers must stay union members in order to keep their jobs, the result becomes the closed shop.

The opinion of the public-labor majority of the board in the Shell case, to which industry members of NWLB vigorously dissented, stated that the action was on "most special grounds and is not to be taken as precedent." The "special grounds" cited by the majority are:

(1) The preferential hiring clause which has been in force at this plant for a number of years has not resulted in all employees joining or being required to join the union.

To which *Shell* replies that it must therefore be assumed that only a 100% union labor force would induce the board to withhold membership maintenance.

(2) There are a large number of established grounds on account of which the company can reject the preferences of the union.

To which the company counters with

A Cue To Increased Production

OASIS Electric Water Coolers

Nothing brings "production pep" back to thirst-fatigued workers as quickly, safely and healthfully as properly cooled water. And OASIS Electric Coolers see to it that every worker gets drinking water at its best! These "allies of production" have proved their superiority in hundreds of installations—they are designed by pioneers in the electric water cooler field, and built in one of the best equipped conveyor-line production plants in the industry. If you have priority requests for water coolers, get in touch with EBCO today!



The EBCO Manufacturing Company
401 W. Town St., Columbus, Ohio



This man was taught not to drink water

Drinking water is scarce in North Africa. And what there is, is likely to be bad.

So before our soldiers landed there, they were weaned away from water. A dash of iodine in their drinking water served the double purpose of disinfecting it, and making it taste awful. By the time the boys landed in Africa, they'd lost all taste for water except in safe, prepared drinks.

The favorite prepared drink is

lemonade. Field Ration K provides it—along with veal, pork, sausage, coffee, bouillon, malted milk tablets, biscuits, chocolate and chewing gum—all in a 33 ounce pack.

Sounds like somebody was taking pretty good care of our boys, doesn't it? And that's right. American soldiers are the best-fed, best-equipped, best-cared-for in the world.

But keeping them that way

takes money. So much money that Uncle Sam asks us to invest not 10% or 15% or 20%, but all we can in War Bonds.

Chances are, you're already in the Payroll Savings Plan—doing your bit. But don't stop there. Raise your sights! Do your best! Remember, you get back \$4 for every \$3 you invest, when Bonds are held to maturity. But your money is needed NOW!

YOU'VE DONE YOUR BIT... NOW DO YOUR BEST!

BUY MORE



WAR BONDS

This space is a contribution to America's all-out war effort by

BUSINESS WEEK

How to Write Better Business Letters

BY

EARL A. BUCKLEY

Direct Mail, Correspondence, and Letter Specialist of twenty-two years' experience.



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201 pages, 5 1/2 x 8, \$2.00

"Chock full of tested methods to increase the calibre and productivity of letters."

Chicago Credit News

YOU can make dictation or letter writing an easier job and at the same time make letters do more work, with the aid of this helpful book. In simplest possible manner it shows the essentials of good letter writing and with pointers and examples from the work of successful letter writers shows how to make your own letters more productive. Covers all the regular correspondence needs of business offices, including sales letters.

A practical business manual

The book is one of a series especially planned to help business men with boiled-down, simple treatment of their problems—suitable for the smaller business owner-manager as well as the specialized worker or executive in larger concerns.

Tells how to

- write attention-getting openings
- develop the body of the letter
- write action-compelling closes
- write an adjustment letter
- write an inquiry letter
- write collection letters
- revive inactive customers
- avoid "telegraphic" letters
- make every letter a sales letter, etc.

Make every letter you write a real business-builder

Every letter—of inquiry, proposal, or adjustment—has a job to do. But so routine a part of business is correspondence that the profit possibilities in improving it are often overlooked. Try Buckley's methods in your letters—even a slight increase in efficiency of each one will mean a lot in a month's time.

10 DAYS' TRIAL—SEND COUPON

McGraw-Hill Book Co., 330 W. 42nd St., N.Y.C.
Send me Buckley—How to Write Better Business Letters for 10 days' examination or approval. In 10 days I will send \$2.00 plus few cents postage, or return book postpaid. (We pay postage on orders accompanied by remittance.)

Name _____

Address _____

City and State _____

Position _____

Company _____

BW-6-19-43

records showing that in the 14-month period up to March, 1943, 88% of all newly hired employees had been supplied by the union. The other 12%, Shell maintains, have been secured from outside sources when the union has been unable to supply qualified applicants within a reasonable time.

(3) The union lost some of its members because of its fair and judicial attitude in the settlement of grievances.

Shell has no answer to this statement because, it insists, no evidence to this effect was ever presented to it, to NWLB's panel, or to the board.

• Not Unique Circumstances—It is apparent, therefore, that in spite of the admonition that the award is not to be taken as a precedent, the special circumstances which NWLB found decisive in this case are not unique and may be found in many industrial plants.

It follows that if a union with a preferential shop may demand and receive membership maintenance, a union with membership maintenance may, on the same grounds, demand a preferential-hiring clause. Every union in the country which has a membership-maintenance contract expiring will be tempted to demand, first of the employer and then of the board, that its security be buttressed by a preferential shop. That may very well prove to be the next step in the closed-shop drive.

ATTENDANCE BONUS OUT?

There will be no attendance-bonus plans to combat absenteeism, even if they involve distribution of war bonds, if a regional labor board ruling in Cleveland is backed up nationally. Such a plan was denied for the Enro Shirt Company, Inc. of Louisville. The decision pointed out that the payment of bonuses to promote perfect attendance was contrary to wage stabilization because it paid "more money into the stream of inflation to get a person to do a thing that he has already agreed to do and for which he already is being paid."

The shirt company proposed to distribute five \$25 war bonds each week, or every two weeks, and a \$100 or \$250 war bond every six months among its employees with perfect attendance records. Distribution would be by drawing.



SMOOTH WRINKLES

Using only a broomstick, a woman worker speeds up a drilling operation by 75% at a Consolidated Aircraft plant. The stick, fitting the opposing corrugations of a stiffener and bulkhead (above), lines up both for drilling rivet holes. Equally ingenious is another Consolidated worker's adoption of a household knife sharpener to remove sheet-metal burrs (below).



tion of the other federal agencies, was whipping up an injunction when the union notified ODT Director Joseph B. Eastman by telegraph of its intention to comply with his order. Accordingly, the first loaded ferries of the Truckers Steamship Co. were dispatched from the two Lake ports early this week.

Diversion of the trucks to the water route is expected to save some 336,000 tire-miles a day—the principal impetus behind the order. Eastman rejected a petition of the carriers to suspend his order for two weeks while they negotiated with the union for a settlement.

DRIVERS YIELD TO ODT

With the hot breath of the process server fanning its neck, the A.F.L. Teamsters Union in Detroit caved in this week to demands of the Office of Defense Transportation and the Interstate Commerce Commission that common and contract carrier trailer trucks between Detroit and Cleveland get off the highways and move by Lake Erie ferry (BW-Jun.12'43,p18).

The Dept. of Justice, at the instiga-

WAGE FREEZE EXTENDED—

Benefits to employees, even though these do not actually amount to pay or raises, now are subject to review of the National War Labor Board. Such things as establishment of old-timers' bids or readjustment in plans for disability or death payments are covered, the board holds, because, in most cases, they involve compensation. Two recent decisions, made in regional NWLB offices, illustrate the far-reaching implications of these wage stabilization rules and the extent to which they enter fields of managerial discretion.

In the first, the Schrafft's restaurant chain wanted to form an "Old Timers Club" for employees who had ten years or more of service. About 1,000 employees were eligible for membership, and the company planned a gift of a \$5 war bond for 10 years' service, a \$50 bond for 15 years', a \$75 bond for 20, and a \$100 bond for 25 or more.

In the second case, Standard Oil Co. (N. J.) wanted to figure disability and death benefits on the basis of a 48-hour week rather than a 40-hour week. Benefit payments were to go up from 2% of payroll to about 2.2% on the new reckoning.

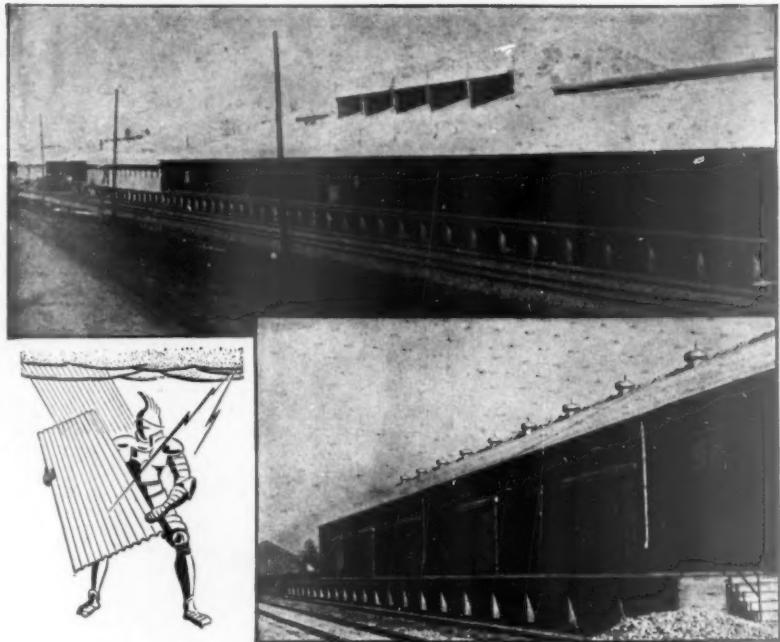
In both instances, after examining the possible inflationary effect of the proposals, NWLB gave the companies permission to go ahead.

TEAMSTERS' DRIVE SNAGGED

Injunction proceedings have slowed up the organizational campaign of the AFL Teamsters Union among dairy drivers at Port Huron, Mich. (BW-Jun. 5 '43, p80). After one store independently had set the example, the Port Huron Grocers & Meat Dealers Assn. obtained a temporary injunction in Michigan Circuit Court restraining the union from interfering with retail distribution, from boycotting wholesalers' shipments, and from threatening reprisals.

Thus circumscribed, the union apparently ceased its overtures to the twelve dairies which employ the 50 drivers, to the retailers who distribute the dairy products, and to wholesalers who supply the retailers with other merchandise. But there were mutterings that if the injunction became permanent, the union would blockade all roads leading into St. Clair County, in which Port Huron lies.

Members of the dealers' association had threatened to close all their stores in protest against the union's boycott. The trucking commission of the National War Labor Board stepped in after the nonunion drivers staged a city-wide strike for a week against the union's efforts to sign them up through their employers. The NWLB agency ordered the status quo restored.



Architect Engineer: The H. K. Ferguson Co.
Contractor: The Ferguson-Oman Co.

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- While practically the entire production of Careystone Corrugated is now going into war construction, its outstanding qualities merit first consideration by industry when peace comes. Further information and specifications will be sent on request. For details, address Dept. 29.

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FINANCE

Ruml (Garbled)

Employers have tough cut out for them in operating pay-as-you-go tax plan after congressional manhandling.

Current collection of taxes is starting under heavy handicaps. Both government officials and business men expect it to bring them plenty of before it settles down to smooth, efficient operation.

• Individuals Misled—For one thing bitter fight over the Ruml plan with its wild statements and scrambled arithmetic has left taxpayers with a lot of misleading ideas about pay-as-you-go. Some think they will have to pay more taxes this year, when actually most of them will pay more. Few realize how big a slice collection at the start is going to take out of their paychecks.

Although the Treasury claimed pay-as-you-go—on its own terms—just as loudly as anyone else, officials are dithering about the way workers will respond when withholding begins. Nobody knows what the lighter pay envelope will do to absenteeism or how much fuel it will add to demands for wage increases. Also, its effect on war bond sales is dangerous enough to make the Treasury issue a special appeal against offsetting taxes by cutting down bond purchases.

• Employers' Problems—However, the Treasury has no monopoly on worrisome employers have a bigger stake than Secretary Morgenthau in absenteeism and in wage scales. In addition, they must face the immediate problem of putting a collection system into operation and making it work. That alone is enough to keep their hands full for the present.

The withholding provisions of the pay-as-you-go tax bill are one of the shakiest parts of a law that hasn't been noted for clear thinking or careful draftsmanship. Congress spent so much time battling over the forgiveness issue that it slapped the collection machinery together with only one eye on what was doing.

• Weak as It Is, Here It Is—It will take a good many interpretive rulings and possibly a legislative overhaul to put the system in good running order. Meanwhile, this is the way it stacks up:

On July 1, employers are to begin deducting 20% of all wages and salaries above the exemptions specified by the pay-as-you-go law. The exceptions are wages paid to members of the armed forces, agricultural labor, domestic servants, casual labor, ministers of the gospel, and nonresident aliens. For



"Genius always sees another hill to climb"

We do not claim genius, but we are constantly alert to see the next hill to climb. That is the very basis of our "Custom-Built" idea.

The ordinary telephone-type relay is not always suitable for industrial use. The Clare "Custom-Built" idea has been verified by the excellence of performance in many different classifications of industrial activity, and has made Clare Relays one of the most wanted names among design engineers.

Today we are looking ahead to the relay requirements of industry in the postwar period. New products are on the drafting boards now. We know that these new products will be different in many ways and that the relays used in them will call for still finer designing on our part—for more compact construction, more efficient operation, greater ability to withstand vibration, for new and different electrical characteristics.

All of these requirements will call for new thinking—young thinking—thinking free of all tradition-bound limitations. These requirements will call for "Custom-Built" relays. The same unhampered thinking that has lifted Clare Relays out of the run-of-the-mill classification is the kind of thinking that will be employed in the relays of tomorrow.

So that your engineers may become familiar with the Clare "Custom-Built" idea, ask them to submit specifications and we will furnish a relay "Custom-Built" to meet those specifications. In the meantime, ask us for the Clare catalog and data book. C. P. Clare & Co., 4719 Sunnyside Avenue, Chicago. Sales engineers in all principal cities. Cable address: CLARELAY.



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CLARE RELAYS

THE MARKETS

Invasion jitters plagued Wall Street again this week as fidgety traders waited for something definite to happen. General restlessness showed up in the stock market, where the industrial average slid off better than two points on Monday. This was the sharpest spill since the four-point drop that followed the President's hold-the-line order on inflation last April.

• Anxiety Increases—A lot of the market's softness is undoubtedly pure nerves. During the lull in military operations, traders have had nothing to do but sit and think of all the things that could go wrong with an invasion.

Long, tense waiting periods always tend to make prices wobble, because traders who count on turning a quick profit get discouraged if the market settles down to wait for news. After a while, they sell out in disgust, no matter what they think of the long-term outlook.

• Traders Are Cautious—In the present market, technical factors make it harder for prices to hold up while the period of suspense drags on. After the long, uninterrupted rise, a good many traders are playing cagey by keeping stops just under the market. Each time prices sag, some of these stops are uncovered. There's nothing unusual about this situation, of course, except that just now traders are keeping their stops closer to the market than they would if the bull movement were brand new.

In spite of its worries, Wall Street hasn't been moping. Quite a few investors found time to enjoy reports of the hearings of the House Interstate and Foreign Commerce Committee, which has been putting the Securities & Exchange Commission over the jumps.

• Limit on Discretion?—Proxy rules, adopted last winter by the SEC, drew most of the committee's fire. Although

the hearings didn't produce any definite conclusions, some securities men think they pave the way for a bill to trim down SEC's discretionary powers. More important from a dealer's standpoint is the fact that the mauling the commission took may check its plans for new regulations, particularly the proposed "full disclosure" rule for over-the-counter trading.

In the government bond market, dealers spent their time getting ready for the Treasury's \$2,500,000,000 offering at the end of this month. Although a financing of this size would have looked big a year ago, it's pretty much routine now. Principal buyers will be the commercial banks.

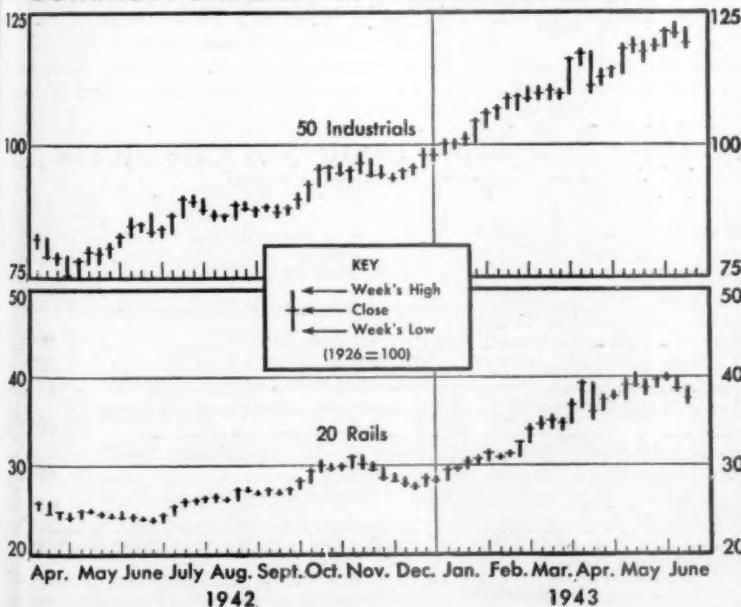
• Methods Criticized—Some bankers complain that the Treasury made unnecessary trouble this time by releasing information on the issue piecemeal—announcing the size and approximate date but withholding details until the last minute. One shrewd dealer suggests that perhaps the Treasury is a little embarrassed over the way the government bond market has been booming and that it hopes the vague announcement will put a temporary damper on prices.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	119.2	120.8	117.6	85.0
Railroad	37.5	38.6	38.9	23.9
Utility	47.2	47.2	46.9	31.5
Bonds				
Industrial	116.1	116.5	115.6	107.9
Railroad	97.3	98.5	100.1	82.3
Utility	113.9	114.4	113.7	103.1
U. S. Govt.	112.6	112.7	111.9	110.9

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

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paid to professional men do not count as wages.

To determine the withholding status of his workers, the employer must secure from each one a statement on Treasury form W-4 (below), giving marital status and number of dependents. However, it is the employee's responsibility to file this form, and if he does not, the employer is to assume that he claims no exemption.

Family status exemptions prescribed by the law are \$624 a year for single wage earners, \$1,248 for married men claiming the

whole exemption, and \$624 for married men taking only half the exemption (those with working wives). Each dependent is worth an extra \$312 a year. The Victory Tax exemption is a flat \$624 a year, regardless of marital status.

If the employer chooses, he may compute the exact amount of the withholding tax himself. If he does this, he has to remember that the 20% withholding actually covers two separate deductions, 17% for the normal and first bracket surtax, 3% for the Victory Tax. He is to withhold either 20%

of wages above the family status exemption or 3% above the Victory Tax exemption (\$624) whichever is greater. The 3% holding rate will apply only in cases where the worker earns enough to come under the Victory Tax but not enough to be subject to regular income taxes.

If he wishes, the employer may make deductions by wage brackets, using those prescribed by the law. There are five showing legal deductions for various periods and exemption classifications.

Collections of \$100 or more are to

That Pay-as-You-Come-and-Go Tax

Most of the nation's 42,000,000 taxpayers know by now that the switch to pay-as-you-go taxation isn't going to be a simple, painless process. Those who don't will make the discovery after July 1, when employers begin withholding 20% of all wages and salaries above specified exemptions (BW—May 29 '43, p. 16).

• **Abatement in Theory**—Although congressional debate over the pay-as-you-go bill involved a great deal of talk about "forgiveness" and "abatement," taxpayers will find that for the next two years they have to shell out more instead of less. Under the new system, taxes on 1943 income must be paid in 1943. In addition, taxpayers are still liable for 25% of their 1942 taxes. (If 1942 taxable income was greater than 1943, they have to pay all the 1942 tax plus 25% of the 1943 tax. The 75% "forgiveness" applies only to the lower of the two years.)

Quarterly payments made on Mar. 15 and June 15, 1943, will not take care of this unforgiven 25%. They apply against 1943 taxes. The unabated part of 1942 liability falls due in two instalments, the first on Mar. 15, 1944, the other a year later.

• **Paperwork Multiplied**—Pay-as-you-go doesn't wipe out the red tape of

tax collection, either. In fact, anyone whose income falls above the first surtax bracket will find his paper work four or five times greater than before. Instead of filing a single return, he will have to make a preliminary estimate of income at the beginning of each year, correct it quarterly, and make a final return at the end of the year. In the meantime, he will have to make quarterly payments based on his estimated income, and if he guesses too far wrong, he lays himself open to having to pay a penalty.

Wage and salary earners will start the collection machinery running by filling out the Treasury's form W-4 (below) giving their employer information on their exemption status. On July 1, employers will begin deducting 20% of wages above exemptions. (The law sets up elaborate tables for deduction by wage brackets and amount of exemption.) From then on, the taxpayer's calendar will shape up like this:

Sept. 15, 1943—All persons in the second surtax bracket (single men earning over \$2,700 a year, married couples over \$3,500) and everyone with income over \$100 from sources other than wages must file an estimate of income for the year 1943.

On the basis of this estimate, they figure their 1943 income taxes and Victory Tax. Then they subtract the quarterly payments made on Mar. 15 and June 15 and the estimated amount their employer will have deducted by the end of the year, including the 5% deduction for the Victory Tax in the first half of the year. Half the balance not covered by previous payments and withholding must be paid at this time.

Dec. 15, 1943—The same group of taxpayers must go through the estimating process again and pay the remainder of their 1943 taxes not covered by withholding.

Mar. 15, 1944—All taxpayers must file a final return showing 1943 income and taxes and pay any unpaid balance on the 1943 tax. In addition, they must pay half the unforgiven 25% of 1942 taxes. Taxpayers above the second surtax bracket file estimates of 1944 income and pay one quarter of taxes that will not be covered by withholding.

June 15, Sept. 15, Dec. 15, 1944—Correction of estimates and payment of quarterly instalments.

Mar. 15, 1945—Final return for 1944, payment of remaining half of unforgiven 25% of 1942 taxes, declaration of estimates of 1945 income.

FORM W-4
U. S. TREASURY DEPARTMENT
INTERNAL REVENUE SERVICE

EMPLOYEE'S WITHHOLDING EXEMPTION CERTIFICATE (Collection of Income Tax at Source on Wages)

Name _____

(Print full name)

Address _____

(Print home address)

Social
Security
No. _____

I. Check the box in the line below which applies to you on the date this form is filled in:

Married person living with husband or wife but claiming none of the personal exemption _____

Married person living with husband or wife but claiming half of the personal exemption _____

Single person (not head of a family) or married person not living with husband or wife (not head of a family) _____

Married person living with husband or wife and claiming all of the personal exemption (spouse claiming none of the exemption) _____

Head of a family (a single person or married person not living with husband or wife who exercises family control and supports closely connected dependent relative(s) in one household) _____

II. Number of dependents receiving chief support from you who are either under 18 years of age or incapable of self support because mentally or physically defective _____

I declare that the entries made herein are a true and complete statement as of the date indicated, pursuant to the Internal Revenue Code and the regulations issued under authority thereof.

Date _____, 194____

16-34506-1 (Signature) _____

- (1)
(2)
(3)
(4)
(5)

deposited monthly with banks designated by the Secretary of the Treasury. Within a month after the end of each quarter, the employer must file a return with the Treasury (Form W-1), showing the amounts collected during the period. Before Jan. 31, he must give each employee a statement (Form W-2) showing the amount withheld during the past year. (This replaces the old form 1099 and the newer form V-2, the Victory Tax statement. For the year 1943, this statement should cover collections both at 5% during the first half year and at 20% during the second half.) Also by Jan. 31, the employer must file with the Treasury a final return for the year, which checks out with the statement given employees.

Deadlines for the coming year will be up like this:

July 1, 1943—Begin 20% deduction. Stop deducting 5% Victory Tax.

Oct. 31, 1943—File return (W-1) with Treasury, covering collections in July, August, September.

Jan. 31, 1944—Give employees annual statements of deductions (W-2). File return (W-1) for October, November, December. File statement for year (W-3) reconciling total collections with statements given employees.

Apr. 30, 1944—File return (W-1) covering January, February, March, 1944, collections.

Utility Milestone

Associated Gas & Electric, complex outgrowth of frenzied finance, finally emerges with a plan of reorganization.

It has been three and a half years since the Associated Gas & Electric system, one of the most fantastic of the utility pyramids, toppled into bankruptcy. Now, for the first time, trustees have cleaned up enough of the wreckage to start putting it back together. This week they filed with the Securities & Exchange Commission a comprehensive plan for reorganization of the two top holding companies, Associated Gas & Electric Co. (AGECo) and Associated Gas & Electric Corp. (AGECorp).

Most Complex Case—Progress of the system along the comeback trail means more to utilities men than just another organization story. A.G.&E. probably is the most complicated case in the history of utility receiverships.

The manipulations of Howard C. Hopson, who originally put the system together, give a greatly magnified picture of the kind of financing that led to the holding company death sentence. Hopson was one of the bitterest opponents of government regulation, and his phony telegrams to congressmen, often signed with names taken off gravestones, had a good deal to do with turning Congress against the utilities.

Abolishing Complexities—If the proposed reorganization plan goes through,



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THE illustrations above show a section of a precision metal part used in a vital wartime product. Top photograph is a close-up view of one edge of this part. What looks like a mountain range around the hole are really small burrs. Below it this same area is pictured after brushing. Note the absence of any excess metal, the smooth finish and the rounded corners.

This example is typical of thousands of metal parts, large and small, going into the production of such precision products as bombs, shells, guns, recoil mechanisms and motors. Every one must be free of burrs. Every one must have the corners broken. Too frequently, both operations are being performed by slow, inefficient manual methods, with the result that an abnormal number of workers is required for this service and the finished job leaves much to be desired.

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it will wipe out most of the corporate complications Hopson built into his top-heavy system. Instead of two holding companies with a couple of dozen different varieties of securities, it will set up a single top company, capitalized on a one-stock basis. At the same time, it will eliminate cross-holdings of securities among operating subsidiaries and subholding companies.

In proposing a one-stock capitalization, the trustees assume that the long-fought "recap" litigation will be settled along the lines of the compromise they proposed last fall (BW—Nov. 14, p103). This recap battle, a fight for priority between creditors of AGECo and of AGECO, has been one of the main stumbling blocks in reorganization plans.

• How the Fight Started—Originally Hopson had only one top holding company, AGECo. However, about ten years ago, when his credit was beginning to wear thin, he organized AGECo and by a sort of financial sleight of hand managed to insert it between AGECo creditors and the system's assets (BW—Aug. 22, '42, p86). When both companies collapsed, AGECo technically had first claim on assets, but AGECo creditors charged that the whole recapitalization plan was invalid.

To end the resulting litigation, the trustees finally proposed a compromise under which creditors of both estates would share the remaining assets. Senior creditors of AGECo and AGECo will get common stock in the new company. Owners of the AGECo 8% bonds of 1940, issued after the recapitalization, will get either debentures of the new company or securities of one of the subsidiaries. In addition, there will be a new bond issue of \$11,000,000 to provide working capital and money for debt retirement. Stockholders and unsecured creditors are frozen out entirely.

• Partial Integration—Under the trustees' plan, the A.G.E. system would come out of bankruptcy on a partially integrated basis. Although the top holding company would be on a one-stock basis, lower levels of the system would need additional simplification before they could comply with SEC requirements in this regard. Moreover, the new management would have to divest itself of a collection of scattered holdings to integrate the system geographically.

So far, SEC hasn't made any promises, but most utility men think it will let Associated out of bankruptcy without insisting on complete integration. Ordinarily the commission goes on the theory that receivership is a good time to put through corporate and geographical integration so that the reorganized company won't need to make any additional changes. In this case, however, the situation is so complicated and the process has dragged on so long that SEC probably will settle for partial integration.

THE TRADING POST

On "Black Markets"

In the current fight against inflation, the "black market" comes in for its share of attack. And that is all to the good, for if the people themselves try to evade the measures contrived for their own protection, we cannot get very far toward achieving collective security. The power of any law or regulation is measured directly by the respect accorded to it by the rank and file of the people. The classic example of this was our prohibition experience.

Now the term "black market" has taken over the place of "bootlegger" and is coming in for the same kind of general use to describe the means and agencies of evasion.

But such terms seldom are precisely descriptive, and if we are to deal effectively with the evils they stand for, we must see clearly just what is involved. In other words, the term "black market" requires definition before we can measure its influence, devise adequate curbs for it, or punish effectively those who feed its threat against the public interest.

* * *

Consider, for example, the case of meat, so often the subject of "black market" operations. Strictly speaking, any meat is "black market" meat if any governmental price or supply control has been violated at any stage in its course from the purchase of the cattle to the retail butcher's counter. But this very spread of opportunity for illicit procedure suggests that the offense may vary all the way from pure black to pale gray.

We may fairly set down as pure black the operations of those who deliberately set out to make money producing meat to be sold outside all the channels of government control. A spectacular example is the ring that included the entire operation from buying cattle in western markets through a nation-wide affiliation with wholesaler accomplices who distribute the meat.

Such operators apparently outbid honest packers for the cattle and pass the meat along at above ceiling prices, making huge profits in the process.

No less black is the petty racketeer who buys one or six cattle, slaughters them, and peddles the meat in the best tradition of bathtub gin. As a matter of fact, probably no tremendous volume of meat now moves through such coal-black channels. Both of these operators are exploiting the grim necessities of war for what they can get out of it.

* * *

But when we get away from such primary and premeditated iniquity, the blackness of the black marketer begins

to fade. For now we must hale to judgment such relatively harmless characters as the retail butcher who gets sore at the packer's offer to deliver one hind-quarter instead of the four sides he has been accustomed to get and who, in protest, buys cattle from a local feeder and slaughters them himself. So long as he gets the necessary license from the local authorities, his operations are on the safe side of the law, until—as almost surely happens—he keeps right on slaughtering beyond the percentage restrictions that govern slaughterers of more than a minimum number of animals.

Closely related in shade of black is the retailer—either a little fellow or an operator of a chain—who buys cattle in perfectly legal fashion on the markets and has them slaughtered on a royalty basis. The retailer may well be in the clear all the way through. But the slaughterer probably is ignoring all restrictions on how many animals he should kill.

Then, too, there is the meat that a retailer may buy at a little above the legal wholesale ceiling for resale at his own private retail ceiling, as well as that handled by the retailer who boosts his selling prices above the ceiling because he disagrees with the adequacy of the margin that has been allowed him.

* * *

Closer inspection might reveal even more gradations between the deep black of premeditated sin and the muddy gray of lawless protest. But these examples will suffice to make the point that the term "black market" in itself does not define very sharply the measure of the offense against the general welfare.

It is an old American custom to temper respect for the law with individual appraisal of the facts in any specific case. I very much fear that anti-inflationary rules and regulations are not exempt from its sway.

This is no argument in support of lax enforcement. Neither is it an attempt to belittle the grave results that surely will flow from a general collapse of our safeguards against inflation. My purpose is merely to recall that if such measures are to be effective they must enlist public acceptance and cooperation. Only when we learn how "to make the punishment fit the crime" will decent and responsible people be inclined to take an active part in checking the abuses that may come to their notice.

When we use the same brand on the minor neighborhood offender that we apply to the vicious but remote criminal, we inevitably diminish its evil import, which is all to the advantage of the latter.

W.C.



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THE TREND

TOPPING THE PEAK IN MANPOWER

Manpower is now generally recognized as the central problem of the war economy. And, we are now at a turning point. The over-all output we can expect from our manpower is at its peak. In a matter of months, we shall experience a decline. That change in trend must prove a governing factor in deciding how to achieve the maximum use of our manpower for war.

Bureau of Census data (in millions of persons) provide certain basic insights:

	April 1942	April 1943	Change
Civilian Labor Force	53.7	52.1	-1.6
Males, 14-54	32.9	28.8	-4.1
Females & Older Males	20.8	23.3	2.5
Employment	50.7	51.2	0.5
Unemployment	3.0	0.9	-2.1

The influx of women and older men into the labor force is not offsetting the drain of younger men to the armed forces. Our new workers have less training, strength, stamina, and other qualities than the cream of our manpower which is being inducted into military service; per-person productivity is being lowered. And unemployment is at or close to an irreducible minimum, consisting of persons in the process of changing jobs.

• What has sustained us so far is the increase in the average work-week—from 43.4 hours in April, 1942, to 45.9 in April, 1943, in nonagricultural employment (which rose only from 41.4 millions to 41.6 during that period). That gain in hours is equivalent to the addition of 2,300,000 workers in one year.

The minimum industrial work-week of 52 hours in Britain, and the British 56-hour maximum for women and 60-hour maximum for men, are often cited to show what we could do. By going to a 56-hour week, it is pointed out, we could achieve a theoretical 20% increase in gross product.

• However, when weekly hours rise, at least beyond 48, mounting fatigue reduces production per man-hour over the entire work-week. When hours stretch too long, total weekly output drops. So, a boost from 48 hours to 56 brings, not the equivalent of eight hours more production, but of perhaps only six, or even four. Since industrial work is far more intensive in this country than in Britain, efficiency experts set a lower hours-limit for maximum production here. And, the more that women and old men replace young men, the lower is the fatigue limit for the average.

Also to be remembered is the fact that many of the housewives, children, and oldsters now entering the labor-market are part-time employees who cannot be spared full-time from household, school, or other normal duties. Again, in considering statistical averages, we must allow for the fact that absenteeism reduces actual hours worked below scheduled employment-time—and with increasing

effect as the work-week lengthens. Finally, in the few key industries where equipment—rather than manpower—is the bottleneck, the reduction of efficiency from long overtime means an actual loss to the war effort.

• In this light, examine the change over the past year in the breakdown of nonagricultural employment (in millions of persons) by weekly hours worked:

Month	*Zero Hours	Under 40	40-44	45-49	and Over
Apr. 1942	0.7	6.4	16.3	9.3	8.7
Apr. 1943	0.8	4.7	11.1	15.0	10.0

* Employed, but ill, on vacation, temporarily laid-off, etc.

Part-time employment—under 40 hours—cannot be stepped up to full-time as sharply as in the past: we now have more children, housewives, and oldsters at work. There will be a movement toward more 52- and 54-hour work, but as we have seen, this tendency will not be as dramatic nor will it mean as much more production as some have hoped. As in the past, the greatest gains in man-hours will come from stepping 40-hour work up to 48.

However, accomplishing that still presents a business problem. The 50% overtime-wage premium—which does serve as an incentive to workers to labor longer hours, and which, in any case, it is utterly unfeasible to rescind at this late date—acts as a deterrent to industries operating under price ceilings. Of course, where companies find labor short, but overtime operations still profitable, hours will be increased voluntarily. Instances of where the stepup is hard to make are (1) in coal, where overtime work meant a net financial loss, until the government allowed a price increase, and (2) steel, where high wages attracted sufficient workers to make overtime unnecessary until the government ordered an extension to 48 hours. Failing such a stepup, in these days of general manpower shortage, production is lost—directly in the case of the labor-short industry, indirectly in the case of the labor-surplus line which holds on to manpower that a longer work-week would release to some needy industry.

• Increases in work-weeks will come gradually and piece-meal—though they have been speeded in recent months, with average hours going from 44.4 in February to 45.9 in April. In time, they might mean approximately 5% more output of goods and services. But we must recognize that such a gain will be at least offset by the declining size and productivity of our labor force.

That is perhaps the best reason why we can ill afford tardiness in administrative measures to maximize manpower use without imposing back-breaking financial burdens on the businesses which must pay for it.

The Editors of Business Week

Business Week • June 19, 1943

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